AMERICAN

RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

SATURDAY, SEPTEMBER 27, 1856.

Second Quarto Series, Vol. XII., No. 39.---Whole No. 1,067, Vol. XXIX.

ESTABLISHED IN 1831.

NEW-YORK:

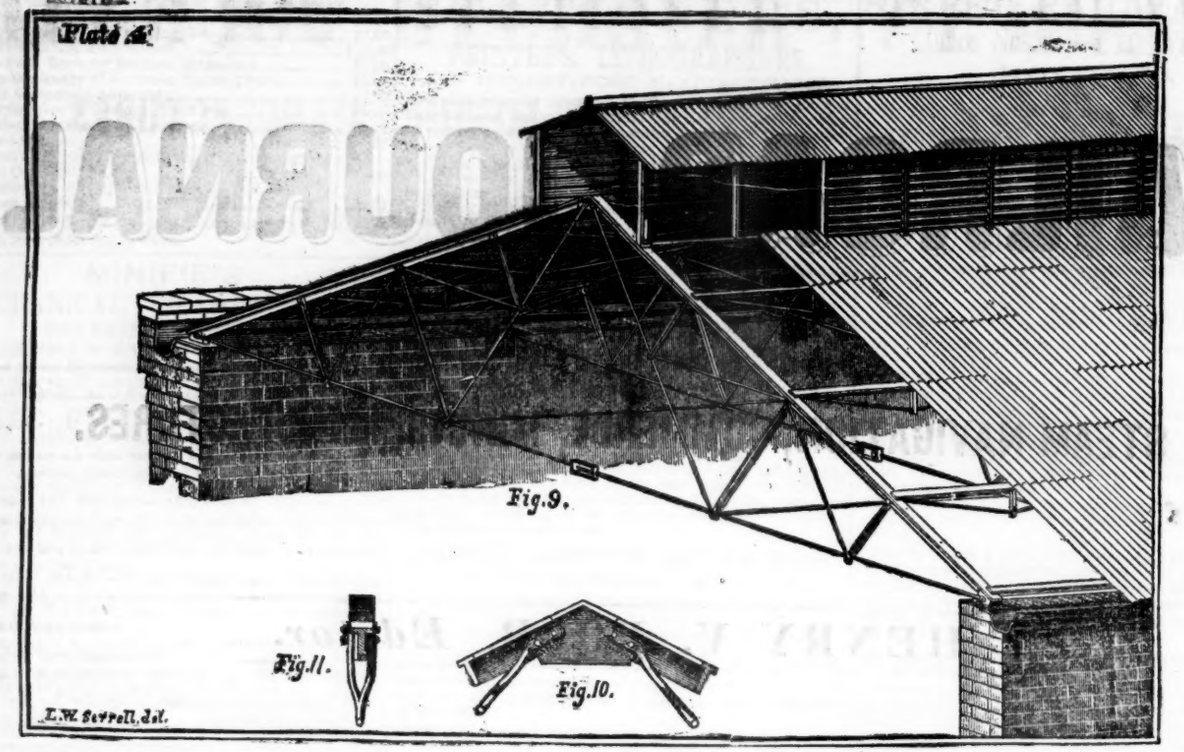
PUBLISHED WEEKLY, BY

JOHN H. SCHULTZ & CO.

Front Room, Third Floor,

No. 9 Spruce Street.

ROOFING.



THE subscribers, manufacturers and importers of PATENT GALVANIZED TINNED IRON, respectfully invite the attention of railroad companies and others interested in the construction of Fire-proof Buildings and Roofs, to this material, which is highly recommended for strength, durability, and lightness, combined with elegance in appearance.

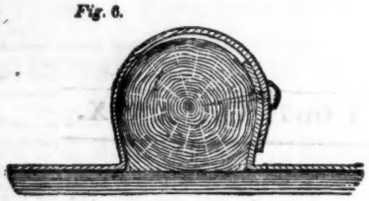
The advertisers can refer particularly to Roofs they have erected in the New York Navy Yard, also to that of the New Jersey Railroad and Trans. Company, Jersey City. In Great Britain it is used at all the railroad depots and navy yards in enormous quantity.

The corrugated sheets, as on the above iron framed roof, are equally suited to lay upon wood framing, either straight, or curved.

Plain sheets are prepared to lay on boarded roofs (such as have had tin coverings) by making a flute on the side so as to fasten to a wood roll, reaching from ridge to eaves and placed between each tier of sheets, see *figs.* 6 and 8 below. The transverse joints are secured as shown by *fig.* 7.

Estimates and designs for Buildings and Roofs, &c., &c.

Fig. 6.

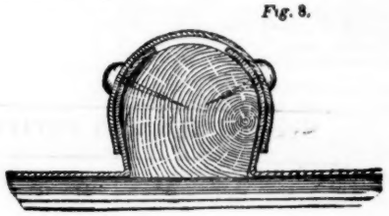


¼ *full size.*

Fig. 7.

¼ *full size.*

Fig. 8.



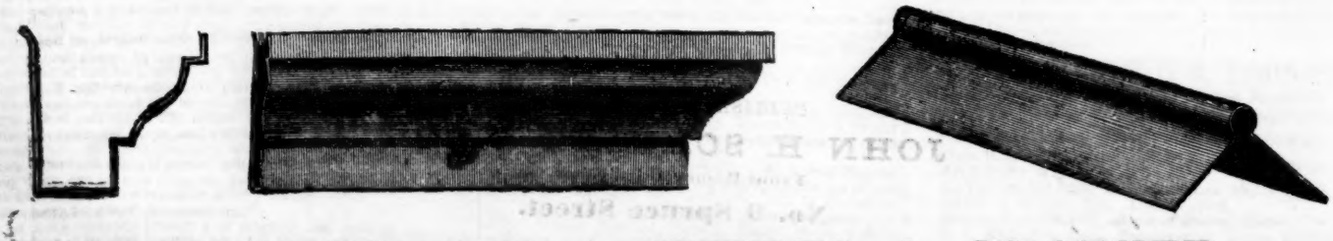
¼ *full size.*

Galvanized Iron Cornices to any size or pattern, Ridge Caps, and Spouts.

TELEGRAPH AND FENCING WIRE, LIGHTNING RODS.

BLACK SHEET IRON CORRUGATED.

SHIPS' IRON WORK, SPIKES, NAILS, &c., promptly galvanized.



MARSHALL LEFFERTS & BROTHER,

Corner of Broad and Beaver sts., NEW YORK.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW-YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE

SECOND QUARTO SERIES, VOL. XII., No. 39.] SATURDAY, SEPTEMBER 27, 1856. [WHOLE No. 1,067, VOL. XXIX.

☞ MESSRS. ALGAR & STREET, No. 11 Clements Lane, Lombard Street, LONDON, are the authorised European Agents for the *Journal*.

PRINCIPAL CONTENTS.

Atlantic and North Carolina Railroad.... 509
New Method of Manufacturing Iron from Steel.510
Marietta and Cincinnati Railroad.... 512
Railroad Convention at Cincinnati.... 512
Racine and Mississippi Railroad.... 512
Canada—Its Resources and Capabilities.... ..413
Grand Trunk Railroad—Celebration.... 513
Spartanburg and Union Railroad.... 516
Chicago, Iowa and Nebraska Railroad.... ...516
Rock Island and Chicago Railroad.... 517
Honduras Railroad.... 518
Railroad Earnings.... 519
Springfield, Mt. Vernon and Pittsburg R. R...519

American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

New York, Saturday, September 27, 1856.

Atlantic and North Carolina Railroad.

From the second annual report of the Directors of this road, made on the 17th July, we learn that the affairs of the company are in a very satisfactory condition; that during the past year they have met with punctuality all their engagements, notwithstanding a large amount of work has been performed, and materials delivered and paid for, including 3,200 tons of rails.

In the last annual report it was stated that the road was under contract from Newbern to Goldsboro'; it was also stated that the eastern division, from Newbern to the harbor of Beaufort, would also have been let, but for difficulties experienced with the people of the latter place, on account of the location of the terminus; and that in consequence of their failure to make a subscription that had been promised, by a certain day, the engineer was instructed to make new surveys, on the west side of the river, and to the harbor of Beaufort, and plans and estimates of the work prepared to Caroline city and Shepherd's Point. As soon as the calculations could be made, the results of the survey were given by the engineer in a supplemental report. The contracts were shortly after let to highly responsible gentlemen for the Trent river viaduct, and the graduation, masonry, bridging and superstructure from that point to Beaufort harbor, the eastern terminus of the road, also for the arm to Caroline city. The entire road from Beaufort harbor to Goldsboro', with the exception of the line through Newbern, which the Board thought best to reserve and build, including wharves, warehouses, water stations and machine shops, is now under contract, and in the hands of gentlemen whose experience and zeal guarantee its construction in a workmanlike manner, and its completion at an early day. Although no arrangement had as yet been made for the purchase of iron for the road from Kinston to Goldsboro', and from Newbern to Beaufort harbor, no doubt was entertained but that they would be able to secure the rails for their contract in time to prevent any serious delay in the completion of the work.

In approaching Shepherd's Point, the road for three miles passes through Caroline city, and follows an air line immediately upon the margin of Bouge Sound, and for 3,000 feet before reaching White Rock, the track is constructed across marshes that are covered at high water, requiring a permanent and expensive protection against the action of the waters. But the great value of the location of the terminus directly at the confluence of Bouge Sound and Newport river upon eighteen feet water, affording the most perfect facilities for the interchange of freight between the cars and shipping, would certainly justify any reasonable expenditure of money, and can best be appreciated by those who have had to bear the heavy expense of the conveyance of goods through towns. The arrangements for transferring freights to and from vessels and boats, at the terminus of the branch roads at Newbern and Carolina city, will be of the most convenient and desirable character.

An amendment to the charter was obtained from the Legislature increasing the capital stock of the company from $900,000 to $1,600,000, and making the State a stockholder for two-thirds of the amount, when one-third was subscribed by individuals, and $300,000 paid in. This amount having been paid into the Treasury on the 25th of August, 1855, on the 12th of September following, a subscription of $1,066,666, (two-thirds of the capital stock) was made on behalf of the State.—There not being the necessary means in the Treasury of the State to pay the instalments, bonds were promptly issued by the State Treasurer for that purpose, and bid off by the company at par. The bonds have furnished all the northern funds required by the contractors, and so far have been disposed of without loss. Before another instalment can be exacted from the State, an equal proportion of individual subscriptions must be paid. In order, therefore, that the contractors may be supplied with the necessary means for the construction of the road, the punctual payment of all arrearages both by corporations and individuals is insisted upon.

As the State has the appointment of eight Directors, in consequence of its subscription to the road—four only will be elected by the individual stockholders.

Much of the land required by the road has been released by the citizens along the line; and the Commissioners of Newbern have granted the right of way through that town.

The company have purchased about nine acres near the town, on the Neuse, for the warehouse, machine shops and station houses, and two lots on South Front street, where the road crosses Trent river, and four acres in addition to the land heretofore purchased in Goldsboro'. The company have also received from the town of Newbern, the water lot at the southern terminus of Hancock street, which affords greater facilities for crossing the river. and will make a convenient and desirable freight station for the road.

The company having agreed to provide the principal contractors with trains, for the transportation of iron and other materials, they paying the expenses incurred therefor, contracted, in September last, through their Engineer W. Beverhout Thompson, Esq., who visited the North for that purpose, for two locomotives, viz: the "Gov. Bragg," of Messrs. Rogers, Ketchum & Grosvenor, of Paterson, N. J.; and the "Charles F. Fisher," of Messrs. Breeze, Kneeland & Co., of Jersey City. They are first class engines, constructed with great care, finished in a superior manner, and are designed for either freight or passengers. They weigh about 40,000 lbs. each in running order, and are worked with the shifting link motion. The "Gov. Bragg" was placed on the road in March last, and up to the date of the report

had been running daily, with materials of all kinds for track-laying, masonry, etc.; during which time it had been run 1,959 miles, at a cost for repairs amounting to $2.77½, which test proves that it comes up to the reputations of its builders in every particular. The "Charles F. Fisher" is finished, and from its appearance, and the thorough manner in which it seems to have been gotten up, will doubtless give equal satisfaction.

Mr. E. R. Stanly, having become interested in a contract on the road, resigned the office of Treasurer, which was subsequently filled by the appointment of D. S. Willis, Esq.

The work on the road shows abundant evidence of vigilance on the part of the Chief Engineer and his assistants.

The value of the work done upon the western division, 49½ miles, to July 1, 1856, estimated at contract prices was	$212,392 85
Do. upon the eastern division 44½ miles	199,240 22
Total	$411,633 07

Nine miles of the line is in condition for the running of trains, and are now used for the transportation of materials; 25½ miles are graded for the reception of the sills. There remains only about 9½ miles of clearing to be done upon the entire route; and a considerable amount of graduation upon both divisions is in an advanced state.

The following is a statement of the affairs of the Atlantic and North Carolina Railroad Company, July 1, 1856.

Capital stock paid in	$709,212 94
Balance and bills payable	166,720 65
	$875,933 59
Survey, grading, cross-ties, bridges and masonry	$100,053 28
Iron rails, including charges	184,201 03
Engineering and superintendence	12,292 39
Spikes, chairs, switches, frogs, &c.	20,161 46
Newbern station	5,862 42
Track-laying, road crossings, land damages	4,599 88
Locomotives	17,762 31
Platform and other cars	6,531 72
Real estate	21,928 25
Miscellaneous	6,604 50
Balances, mostly chargeable to real estate and construction	7,244 96
Cash, bills receivable and available bonds on hand	488,691 39
	$875,933 59

In concluding his report the President says:

"In the month of November last we were honored by a visit from His Excellency Gov. Bragg, and D. W. Courts, Esq., Public Treasurer of the State. After an examination of the harbor of Beaufort and the work in the vicinity of Newbern, the Governor was shown at the office of the company, plans of our wharves, warehouses and bridges, and the profiles of that portion of the road he had not an opportunity to inspect personally. We are gratified in being able to say, that he was highly pleased with the substantial character of the work, and returned to the capital with renewed and confirmed confidence in the ultimate productiveness of the road, and its great importance to the State.

"In the management of this great work, we trust we have had the independence to act upon the result of practical experience, instead of the influence of public wishes. It has not been our desire to build a cheap road, that would after a few years, require for repairs a sum equal to one-half its original cost; but to pursue that policy which true economy dictates, and construct every part of it in a thorough and substantial manner, and of the best materials—to lay it with a heavy rail of the best quality—to erect all the buildings necessary, with a view to durability and convenience, and to equip it with first class machinery, that it may be operated as economically and with as much safety as any road in the country."

The Iron Manufacture and Mr. Bessemer's Invention.

The interest which has been excited by the improvement recently proposed in the manufacture of iron and steel by Mr. Bessemer, and the vast importance to the country in general, and especially to this neighborhood, of the manufacture in question, render it unnecessary that we should apologize to our readers for occupying their attention with some remarks on the iron manufacture. In order that those whose studies or avocations have left them unacquainted with the general nature of this interesting manufacture may the better comprehend the exact bearings of a process which is exciting an attention unparalleled in modern times, we will give such a brief sketch of the process of manufacturing iron as will enable them, generally at all events, to estimate the importance of Mr. Bessemer's invention.

Iron is the most extensively distributed of the metals. It exists largely both in the mineral and organic kingdoms, being a constituent of an immense number of natural minerals, and existing as an essential element in the blood of vertebrate animals. The minerals from which iron may be extracted are numerous; but we will only notice those which are important in the British isles. Peroxyde of iron (consisting of 56 parts by weight of iron, combined with 24 parts of oxygen) constitutes the mineral called red hæmatite, of which great quantities exist in Lancashire, Cornwall and elsewhere. This ore is used in England principally for mixing with other ores, but in Sweden and Russia iron is made from it direct. In France, brown hæmatite (a hydrated peroxyde of iron, a mineral of the same composition as the last described, but containing water) is much used in the manufacture of iron. But it is the clay iron-stone which yields the enormous supply of iron produced in Great Britain. This ore is an impure carbonate of iron, containing about 30 per cent. on an average of pure iron. Pure carbonate of iron consists of 28 parts by weight of iron, and 8 parts of oxygen (oxyde of iron), combined with 6 parts of carbon and 16 of oxygen (carbonic acid). The pure carbonate of iron is in clay, iron ore mixed with clay, oxyde of manganese, lime, and magnesia.

The extraction of the metal from this compound is effected by a process, the general principles of which are very simple. First, the ore is roasted; that is to say, it is made into heaps with coal, and ignited; the carbonic acid and water of the mineral are driven off, and the ore is left in a porous state, favorable to the subsequent processes. We may regard the roasted ore as an impure oxyde of iron, containing, of course, all the earthy matter, and whatever was not volatile in the native mineral. If we reflect for a moment on what we have to accomplish in order to obtain the iron from this compound, we shall soon be able to devise the means of doing it. We have iron combined with oxygen, and we wish to separate the latter from the former, so as to leave the metal free. How shall we accomplish this? Clearly only by presenting something to the compound which has a higher affinity for oxygen than iron has. What is this? It is charcoal or carbon. This element, so inert at ordinary temperatures as to be the most imperishable of things, assumes, when heated strongly, an affinity for oxygen more powerful than that of any other known substance; and there are few metallic oxydes which do not yield oxygen to carbon at an elevated temperature, and thus liberate the metal in a reguline or metallic state. This process of depriving metallic oxydes of their oxygen is called reduction, and the reduction of the ores of iron, copper, lead, zinc, &c., consists mainly in heating them, after suitable preparation with carbon, and thereby deoxydizing them. To reduce the iron, then, we have only to heat it with charcoal. But since the ore contains a large quantity of earthy matter, the particles of iron, when reduced, would be held in this porous earthy matter like water in a sponge, and, although reduced, the metal would remain in an unavailable form. How can we separate the earthy matter? Not by mechanical, but by chemical means. If we mix with the ore something which will form a ready fusible compound with the earthy matter, that earthy matter will liquify, and the particles of melted iron will fall through the liquid and collect together into a mass. Lime is used for this purpose. It is as though a sponge filled with water dissolved on the application of a gentle heat, the water in the sponge forming the lower stratum, and the matter of the sponge itself a light oily liquid, floating on the water. Our readers will now have a general notion of the process which they see carried on so extensively in the neighboring iron districts. In huge towers which stud the country, thick almost "as leaves in Valambrosa," day and night, and from year's end to year's end, toiling engines pour thousands of tuns of the materials we have enumerated—iron ore, coke and lime. Blast engines force streams of compressed air into the ignited materials, and the mass slowly sinking in the tower melts into two strata, the one the slag, the other the iron. The former flows off from an upper opening, and the latter is drawn off at intervals from holes made in the lower part of the furnace. The molten metal is conducted along channels made in sand, and slowly filling rough moulds connected with these channels, gradually solidifies, and constitutes the pig iron of commerce. Let us pause awhile to ask our readers if they have ever seen the tapping of a blast furnace at night? If they have not, we tell them that within an hour's journey there is a sight the beauty and majesty of which they have no conception. The appearance of the furnace alone is impressive. The huge flames struggling up, like the panting breath of an imprisoned monster, lighting up the heavens with their fitful glare, and keeping time in their flickering with the groaning blast with which the fire is urged, form a picture which, when examined near, will not be soon forgotten. But what can compare with the beauty of the casting process! It is night, and the eye sees the beautiful net-work of moulds with which the earth is covered. The furnace is tapped, and out gushes the liquid fire; quietly at first, and afterwards more slowly, it finds its way into the various ramifications of the impressed sand, and in a few minutes the whole ground is covered with glowing fire streams. But let us approach. Hark! How the stream hisses as it travels on! And see, thousands on thousands of bright atoms shoot into the air from surface of the metal, burn with a beautiful scintillation, and fall hissing down "a hailing fount of fire."

But to return to our facts. The coke, we have seen, constitutes both the fuel from which the necessary heat is produced, and the reducing agent, by which the oxyde of iron is de-oxydized; the lime makes the earthy matter fusible, and enables the iron to separate itself therefrom. If our object were to give a somewhat full account of the iron manufacture we should stop here to discuss the many important questions which present themselves at this point—the enormous quantity of air which is each day poured through these huge furnaces, the deeply interesting chemical changes which it undergoes as it filters through the fiery column, and the remarkable products which have yielded themselves at its exit, to the reseaches of Bunse, Playfair, and others; the prodigious quantity of heat which is carried off by the blast of cold air, and the economy which has resulted from the heating of the air before its introduction into the furnace; the change in the fuel which has followed the use of the hot blast, and the change in the characters of the iron produced, which has followed that; the modifications

in the lime flux which different ores require, and the consequences which result from a too fusible or too infusible a slag; the objects to be attained by the mixture of ores, and the necessity for the application of minute chemical knowledge to the perfecting of a manufacture so simple in general principle, so obscure in its details; but all these things we must leave unnoticed, and confine ourselves to such particulars as have a direct bearing on the process proposed by Mr. Bessemer.

The method of manufacture we have roughly described produces iron, but not pure iron; that has never been produced but by the chemist, and but few eyes have ever seen it. The iron produced is cast iron, which consists mainly of iron, but is contaminated with a great variety of impurities, from which it is difficult to free it. Just as in the fermenting of grape juice, the principal change is the conversion of sugar into carbonic acid and alcohol, during the occurrence of which sundry small decompositions and transformations take place, giving rise to products on which the flavor or *bouquet* of the wine depends; so, in the reduction of iron from its ore, although we obtain a product containing perhaps 95 per cent. of iron, the remaining 5 per cent. consists of a long array of foreign ingredients, all existing in some form or combination in the materials employed; these have been so affected during the reduction of the iron as to have assumed a state in which they could combine with iron, and hence we discover that the iron drawn from the furnace is invariably contaminated with them. Although small in quantity, the effect which these impurities have upon the physical properties of the iron is truly wonderful. One per cent. of phosphorous or a scarcely larger proportion of sulphur, has a most prejudicial effect upon the iron containing it. The principal element which, in the blast furnace, enters into combination with iron is carbon or charcoal. The metal is capable of combining with 5 per cent. of its weight of carbon, and many kinds of cast iron contain nearly this quantity. Steel is a compound of iron and carbon, containing less carbon than cast iron; and the production of steel from cast iron is simply the removal of a portion of the carbon.

If cast iron from the blast furnace consisted of iron and carbon only, the production of steel and wrought iron therefrom would be easily effected; but cast iron contains, beside iron and carbon, the following impurities, some or all of them: silicon, sulphur, phosphorous; and, in minute quantity, aluminium, calcium and potassium. The conversion of cast iron into wrought iron consists in the removal of these impurities. This purification consists, in the ordinary manufacture, in submitting the iron to the action of air, and also to a mechanical kneading and squeezing process; these are effected in the refinery and puddling, and it is these processes which Mr. Bessemer proposes to supersede by his invention.

We ask the reader's careful attention to the following: namely, that the impurities in cast iron consist of substances all of which combine with oxygen at a high temperature; carbon forming carbonic acid; sulphur, sulphurous acid; phosphorous, phosphoric acid; silicon, silicic acid (silica, or the matter of sand); and so of the rest.—Now, the exposure of the cast iron to heat and air (containing oxygen) is sufficient to cause the substances to form oxygen compounds, either volatile or easily fusible, and incapable of entering into combination with metallic iron. But since these impurities are diffused in small quantities through the mass of the iron, it is with great difficulty that air can be brought to act upon them.—This, however, is done efficiently, but at great trouble; first in the refinery, and afterward more completely in the puddling process. The melted cast iron is exposed in the refinery to a strong heat, in contact with air, and a large proportion of the carbon contained in the iron is burned off, as carbonic oxide; the silicon becomes oxidized as silicic acid (silica), and the iron also oxidizing, supplies a base (oxide of iron), with which the silicic acid combines. This compound constitutes the slag, which is formed in the process. The action of the slag itself upon the impurities yet contained in the iron is a most interesting chemical phenomenon, and will be noticed hereafter. Where a very superior iron is required, charcoal is used in this process instead of coke; and the iron so made is called "charcoal iron." The impurities contained in ordinary coke are in part communicated to the iron, and injure its quality. The minute details of the refinery we need not describe.

The iron thus partially purified is next puddled. It is fused on the bed of a reverberatory furnace, and vigorously stirred about, so as to expose it to the action of the air; oxygen is rapidly absorbed, and the gaseous carbonic oxide formed escapes in bubbles, giving the appearance of boiling, and burning at the surface with a blue flame. As the carbon is burned off, the fusibility of the mass diminishes, and although the heat is increased as the process proceeds, the molten metal passes from a fluid to a spongy, semi-fluid mass. The fearful labor of the puddler now commences. He approaches the furnace almost in a state of nudity, and on the end of an iron bar collects from the furnace as much iron as he can lift. This ball, or "bloom," he swings through the air under a forge hammer, or other compressing machine. The blows at first crush the soft mass like dough, sending out showers of sparks, and squeezing liquid drops from the interior of the metal. The ball cools, the blows of the hammer now ring, the fire shower grows faint, and the liquid drops are replaced by scaly masses, which fall from the now almost solid iron. The kneading process is continued by passing the metal between rolls, in the grooves of which it is drawn out and compressed; it is doubled up and rolled, and heated and doubled up and rolled again. Have you never seen, as you traveled by railway or otherwise at night, the mouth of a black furnace open on a sudden, sending a ray, as of sunlight, athwart the sky, and disclosing something within "so blinding white, so blasting bright," that the eye closed involuntarily? If you returned leisurely to the sight, you observed half naked men darting across the light beams, their motions seemingly more capricious and more sudden the dancing of the images in a phantasmagoria. In a stray beam of the quivering light you see now and then the heavy rocking head of the steam engine, and the greasy teeth of the cog-wheels shoot by, brighter than rows of pearls or falling water drops; the blows of the forge hammer shake the earth, and the whirling of the wheels makes you giddy. What is all this? It is puddling; the conversion of cast iron into wrought iron.

The metal so obtained is not pure, but is sufficiently so for commercial purposes. It contains carbon, silicon and other impurities, but in quantities so minute as not to affect its physical properties materially. It is a curious fact, worth here noting, that some of those impurities which have a most pernicious effect upon iron do not injure it in direct proportion to their quantity, but preserve their injurious action down to a certain point only, and below that proportion appear to be wholly inoperative.

The elimination of carbon, and the other impurities contained in cast iron, and its consequent conversion into wrought iron, takes place by virtue of that beautiful chemical process called cementation—a process in which a chemical change is propagated through a solid or nearly solid body, from the exterior inward, or the reverse. This process is beautifully illustrated by the annealing of cast iron, or the production of malleable iron articles, so largely practiced in Birmingham and its neighborhood. Small articles made of cast iron are imbedded in powdered peroxide of iron, and heated for many hours, or days. The exygen in the oxide of iron combines with the carbon of the cast iron and withdraws it; in short, burns the carbon. This removal of the carbon, commencing at the surface, gradually proceeds inward, until the whole substance of the article has been decarbonized, and the cast iron converted into soft, wrought iron, without the article having changed its form. The converse takes place in the manufacture of steel. In this case the wrought iron is heated with carbon, and the combination of the latter with the former, commencing at the surface, slowly penetrates the mass.

In precisely the same way are the carbon and other impurities removed from cast iron in its conversion into wrought iron; the slag containing oxide of iron playing a most important part. The air can only act superficially on a large mass of fused iron even when it is kept in motion; but the oxide formed superficially is mixed with the mass of the metal, and yields oxygen to the carbon, and other matters in its interior. The silicon becomes converted into silica, which disolves more oxide, and the carbon into carbonic acid, which bubbles and burns as described. During the puddling and hammering, or shingling and piling of the iron, the slag is first thoroughly incorporated with, and, having effected its work, squeezed from the mass of iron.

Can these impurities be removed without this labor, time and fuel? The production of wrought iron direct from the ore can unquestionably be effected, and, where wood charcoal can be employed in the place of mineral fuel, perhaps economically. It is commonly done in the bloomery forges of America, and the Catalan forges of the Pyrenees; and these processes are but ameliorations of the earliest and rudest methods of making iron. Mr. Bessemer proposes to effect the same object by the use of air alone. He forces air into the fused cast iron in large quantity; the temperature rises very high, and the iron is said to be converted into wrought iron. The heat produced is thought to arise from the combustion of the carbon, the whole of which, together with the other impurities, is removed. It is surprising that the carbon, the maximum quantity of which is five per cent., should burn so rapidly as to produce the great heat described; and we wait anxiously for such accurate experiments as shall prove, that the iron itself is not largely oxydized. It will also be most interesting both to the manufacturer and the chemist to learn that the slag can be perfectly removed from the mass of the iron without resorting to the mechanical treatment we have described. We can readily imagine that Mr. Bessemer may reduce the percentage of carbon so low by his process as to make the iron approximate in composition to steel. This has been done three quarters of a century ago; and the patent lists show that from 1771 to the present day, scores probably of patents have been taken out for making steel direct from the ore. To effect this, however, is to do but little; what is wanted is not steel of an indifferent quality, but iron, from which the carbon has been so far removed as to leave the metal malleable. We can readily believe that Mr. Bessemer's process will expedite the manufacture of wrought iron; but extended experiments are required to show that he can dispense with the mechanical methods at present in use. Especially important, too, is it that accurate chemical analysis should be resorted to, to show the composition of this iron, and to prove that the new process will truly purge it of sulphur and phosphorus, as we understand Mr. Bessemer to say it will; elements, the presence of one per cent. of which is fatal to the quality of the iron. It would be scarcely possible by written description merely to make the mechanical contrivances intelligible which Mr. Bessemer describes in the specification of his patent. It will suffice to say that they consist of contrivances for effecting a rapid and complete action of air on the iron—to do, in short, more effectually that which is already done in the refinery furnace.

We cannot close our remarks without in justice informing our readers that there are at least "two Richmonds in the field." Since the announcement of Mr. Bessemer's process, Mr. Martien of New Jersey, in the United States of America, has pointed out a prior patent of his, the essential feature of which is the forcing jets of air or steam throug molten cast iron for the purpose of decarbonizing it. Other claimants of minor impor-

tance have likewise presented themselves. Into the discussion of the question of relative merit between these gentlemen we shall not enter. We may in a future number give such extracts from the specifications of their several patents as will enable our readers to judge for themselves. Meantime, however, we believe it is our public duty to state that, although we hope and believe that Mr. Bessemer's experiments will result in a great improvement in the manufacture of wrought iron, nothing is more likely to check the realization of so important an object than the extravagant excitement which at present obtains. In the hope of allaying the fears which many entertain that something like a "revolution" in the iron manufacture is impending—a notion which may not only lead to unfortunate commercial results, but is sure to be followed by a corresponding disappointment and neglect—we assure our readers that in principle nothing new is proposed by Mr. Bessemer. The refining of iron by air is the only method of refining that has ever been practised. Mr. Bessemer, however, proposes a more direct and rapid method of supplying the air, which appears to be more successful than could have been anticipated.

This, as we have several times already said, we believe will prove to be a great improvement, but at present much remains to be done before these experiments can expand into manufacturing processes. In the interim, the iron manufacturer may safely proceed with his present operations, and, unless we are much mistaken, everything which he now possesses will be found of use when Mr. Bessemer's process has attained its highest perfection; for we think the invention under discussion will result in facilitating the manufacture of iron, by adding a process, or substituting an improved apparatus for the refinery. That the puddling of iron will be rendered unnecessary we very much doubt. In settling the position of rival claimants to the new method, we should also bear in mind that they differ from one another only in the details of the process; they all effect their object, more or less directly, by air. Iron, we repeat, has never been purified by any other means; and through a long succession of ages, though we may trace a gradually improved method of realizing the object aimed at, the principal has never varied. The Egyptian smith, whose race was finished before antiquity began, made his iron by calling into operation the ordinary agency of the air.—*Birmingham Journal.*

Marietta and Cincinnati Railroad.

The greatest public enterprise within the State of Ohio, is probably less generally appreciated, even here in Cincinnati, to whose advancement it will so powerfully contribute, than many undertakings of second rate magnitude, and inferior in sterling value, though they may be more widely advertised. We weigh our words in naming the Marietta and Cincinnati railroad, "the greatest public enterprise within the State." The men who conceived this gigantic work and have brought it thus near completion are not residents of this portion of Ohio, and that is the first fact that occurs to us in explanation of the lack of general information about the line. What is it? It is the extension to Cincinnati, *by the same gauge*, of the Pennsylvania Central railroad, from Philadelphia, and of the Baltimore and Ohio railroad, and is the only railroad having this strong advantage crossing the State of Ohio. It extends from Cincinnati eastwardly across Southern Ohio, through Chillicothe, Athens and Marietta, to the city of Wheeling, 258 miles. It is the central link in the southwestern system of railroads, from New York, Philadelphia, Baltimore and Washington, through Southern Ohio to Kentucky, Tennessee, Arkansas, Missouri and Southern Indiana and Illinois.

This road is now completed from Loveland [23 miles east on the L. M. R. R] to Athens, and will be ready for passengers through to Marietta, on the Ohio river, by next December at the latest.

The present management of the Marietta and Cincinnati railroad is strong abroad as well as at home. The brief synopsis of their sixth annual report—in the commercial department of this paper—will command the attention of those business men and capitalists who are looking to the permanence of the basis of Cincinnati's prosperity as compared with St. Louis and Chicago.—*Cincinnati Commercial.*

Railroad Convention at Cincinnati.

A convention, at which a large number of railroad companies were represented, was held in Cincinnati on the 17th instant, for the purpose of agreeing upon an uniform system of charges which should bring them up to remunerating rates. Mr. Ramsdell of the Erie Railroad was chosen President, and H. C. Lord of the Indianapolis and Cincinnati, and A. Wilkinson of the Michigan Southern, Secretaries.

The following resolutions embody substantially the action of the convention.

Resolved, That the fares between New York and common points in the West shall in no case exceed 2½ cents per mile through—and of this sum the roads between Crestline and New York shall receive $14 60.

Under this resolution the fare shall be as follows:—

New York to Columbus		$16 25
Do.	Cincinnati	18 50
Do.	Chicago	22 30
Do.	St. Louis	27 75
Do.	Terre Haute	22 00
Do.	Indianapolis	20 00

Resolved, That these rates shall continue from the 1st day of November to the 1st of April, after which the fare shall be left for future adjustment.

Resolved, That second class tickets be received only on one train.

Mr. Brough, from the committee to whom was referred the subject of "Freights," reported as follows:—

Resolved, That the Committee recommend the adoption of the following rates, to commence on the first day of October, and continue until the taking effect of the winter rates on all westward bound freight from New York via the New York Central, New York and Erie, Pennsylvania Central and Baltimore and Ohio railroads, to the several points hereinafter named, and further recommend that a committee of one or more from each of these four lines, and their Western connections, be here appointed, to meet at Baltimore on the 1st day of October, review, and, if needs be, modify the classification hereby jointly adopted, and at the same time to arrange through winter rates to common points over the respective lines represented.

	RATES.			
Class—	1st.	2d.	3d.	4th.
New York to Cincinnati—all rail	$1.40	1.10	.95	.70
New York to Cincinnati—part rail and part water	1.30	1.05	.90	.65
New York to Columbus—all rail	1.35	1.05	.90	.60
New York to Columbus—part rail and part water	1.26	1.00	.85	.64
New York to Indianapolis—all rail	1.50	1.20	1.00	.75
N. York to Indianapolis—part rail and part water	1.40	1.10	.95	.70

Cincinnati to New York—Flour, $1 25 per bbl.; 4th class, 65 cents per 100 lbs.

Columbus to New York—Flour, $1 10 per bbl.; 4th class, 58 lbs. per 100 lbs.

Indianapolis to New York—Flour, $1 30 per bbl.; 4th class, 68 cents per 100 lbs.

On motion, so much of the resolution as refers to the calling of a convention at Baltimore was stricken out. The resolution, as amended, was then adopted.

On motion of Mr. Brough, it was

Resolved, That a convention be called to meet at Cleveland on the 18th day of October next, for the purpose of adjusting winter rates and fares, and such other matters as may be deemed important to railroad interests.

Mr. Stone, from the Committee on Enforcement of Rules, reported the following:—

Resolved, That if any company forming any part of a competing line between points where rates of fare or freight have been established by this Convention shall reduce such rates, the roads forming the competing lines may reduce their rates between the same points, and such reduction shall be shared pro rata per mile by the whole line; and that the company first making the reduction shall not be allowed to share in the advantage of such pro rata division, but shall submit to the whole loss of the reduced rates it makes.

Resolved, That if the rates fixed by this Convention, between any points, shall be changed by the mutual consent of all the roads interested, or if rates shall hereafter be fixed by mutual agreement by roads between competing points, not provided for in the rates now fixed, and any road shall reduce such rates in violation of such agreement, the same rule as to dividing the deduction shall be applied in such cases as is also provided.

Resolved, That in adopting their tariff of freight or passengers, roads forming competing lines shall not fix their local rates so that they shall be in the aggregate less than the through rates as now fixed or hereafter to be agreed upon; and that in case the local rates shall be fixed below the through rates, the same shall be deemed a reduction of through rates, and that reduction in competing lines may be made, and shall be shared by the roads as provided in the above resolutions.

The resolutions were adopted, as were also resolutions of respect to the memory of the late John H. Done, Esq.

The Convention adjourned to meet at Cleveland on the first Wednesday of October.

Racine and Mississippi Railroad.

The Racine and Mississippi Railroad was completed on the 15th inst. to Beloit, sixty-eight miles from Racine.

The earnings of the road for 46 miles, to Delavan, during the five months ending 30th of June were	$85,056.00
The receipts of July, ($14,787.60,) and August, ($17,943.22,) were	32,725.82
	$117,781.82
Receipts of passengers in the first two weeks of September	$2,169.36
Do. freights (estimated)	11,200.00
Total previous to the opening to Beloit.	$131,151.18

By this extension the road makes the following valuable connections: At Clinton, twelve miles beyond Delavan, the road unites with the Chicago, St. Paul and Fon du Lac railroad to Chicago, Janesville, Milton, Fulton and Madison. At Beloit, twenty-two miles from Delavan, the road unites with the Beloit and Madison railroad to Afton and Footville, and also with Galena and Chicago Union railroad, to Belvidere, Rockford, Picatinica, Freeport, Galena, Dubuque and stations on Illinois Central railroad, south from Freeport, making a direct railroad communication with the Mississippi river at Dubuque, thence connecting with steamers for St. Paul and other points on the Upper Mississippi.

Twenty miles beyond Beloit are also graded, and the iron for the track is on the ground, and is being laid. The cars commenced running to Beloit daily on the 15th inst. The company has an equipment of 15 locomotives and 172 cars.—Every car is in demand, writes the superintendent, and a full business is offering. The receipts in October, as estimated, will be $40,000.

The total issue of bonds by the company amount

to $680,000, and the stock is $3,200,000, which is all held by the original subscribers along the line, numbering over 2,300, so that it is well distributed.

Canada.

Until within a very few years the people of the United States generally were under the impression that the Provinces of Canada were a cold, bleak, inhospitable country, with a barren soil, rude uncultivated population, primitive in their ideas and manners, and of but little account as a country or people, in the scale of civilization. The first great awakening in any portion of the United States towards the present and future prosperity of our sister Province, and the advantages to be derived from a closer connection with that country, emanated in this, the Queen City of the East. When the project was first started of building a railroad from Portland to Montreal, outside of Maine and Canada, the idea was hooted at with scorn and derision. On every side the plan was considered chimerical and impracticable, one that could never succeed. Regardless of the clamor and ridicule in our neighbor cities, the citizens of Portland persevered, and what has been the result of their labors? From a line originally intended and expected to be only 292 miles in length, has sprung one of the most gigantic Railroad enterprises of the world. Little did the most sanguine of its original projectors imagine, that in less than ten years a line of railway twelve hundred miles in length, extending from the Atlantic coast to the far West, would grow out of their labors. And now upon the eve of closing the last link of this migh y iron band, it seems meet and proper that a grand celebration should be held in commemoration of this great event, and that the citizens of Portland should be alive to the vast importance of such a glorious consummation.

It may not be amiss to glance a little at the resources and capabilities of our Canadian neighbor and see what the country is made of. Canada was formerly composed of two provinces,the upper and the lower, or now known as the eastern and western, consolidated into one. This province extends in length from the coast of Labrador to the western extremity of Lake Superior, sixteen hundred miles, with an average breadth of two hundred and thirty miles, being nearly three times as large as Great Britain and Ireland. It contains an area of about three hundred and fifty thousand square miles, diversified with broad lakes, gigantic rivers, fertile farms, dense forests, smiling villages, and large cities. Its population at the present time is not far from three millions of inhabitants In western Canada the soil is unequalled for its fertility. In the year 1851 the wheat crop in upper Canada was 12,682,550 bushels. In the last ten years the growth of wheat in the whole United States increased 48 per cent., and that of Canada in the same period increased 400 per cent. In Indian Corn, the increase in the States for ten years was 56 per cent., and in Canada 163 per ct. Of oats, the increase in the same length of time has been in upper Canada, 133 per cent., against 17 per cent. in the United States. The increase in cattle, sheep and horses, has been in about the same ratio. From facts taken from the last census reports of Canada and the United States, (taken within a year of each other) it appears that Canada far exceeds the most productive State in the Union in wheat, peas, rye, barley, oats, hay, buckwheat, hemp, flax, hops, maple sugar and potatoes.

It is not, however, in agriculture that this country excels, but the products of the forests are immense and nothing has served to open up and develope the vast tracts of timber lands in Canada so much as the Grand Trunk Railroad. Upon the line of the road between Portland and Montreal immense saw mills have been erected, and vast amounts of lumber have been manufactured, and sent to various markets, making Portland the shipping port for this trade. One mill alone paid the Grand Trunk road, last year, the enormous amount of $60,000 for freight; this is but one instance of many.

The amount exported of the products of the forest in Canada in 1854, was $10,000,000 in value; of mineral products in the same year, $400,000; of the sea in 1855, $500,000; of animals and their products about $1,600,000; of agricultural products, about $13,000,000; of manufactures, $500,000; and other articles, $70,000. Making in all, nearly $27,000,000 in one year.

The amount of goods imported into Canada in the year 1854 was $40,000,000, of which $4,500,000 was imported through the United States under bond, nearly $1,000,000 purchased in the United States in bond, and about $17,000,000 the produce of the United States. The balance being the growth and manufacture other countries imported direct into Canada.

In ship-building the Lower Province takes the lead. In the year 1353, at Quebec alone, were built 48 ships with a tonnage of 49,000, valued at $2,000,000; being an increase in one year of 22 ships.

In manufactures Canada is as yet in her infancy, though within the past few years she has made great improvements in that respect, while the upper Province is eminently calculated for agriculture. The lower Province is peculiarly adapted to develope manufacturing imports. The facilities in the lower province are very great for that purpose, it having the finest water privileges on the continent, and an abundance of mineral wealth, iron ore in inexhaustible quantities, marble, lithographic stone, plumbago, manganese, slate, and ores for paint. In the vicinity of Lakes Huron and Ontario the copper mines are not surpassed in the world for quantity and quality.

In manufacturing, Canada holds out great inducements to enterprise and talent. The field is immense to develope all branches of mechanical and manufacturing skill; and a sure and good market is always open to the artisan, in whatever branch of business he may be engaged. Of boots and shoes, there were imported from the United States into Canada the past year [1855] $600,000 worth, paying a duty of 12½ per cent., while they have hides and skins in abundance,needing only labor and enterprise to have them made at home.—Of hardware and iron, in the same year, Canada imported $2,542,516, paying 12½ per cent. duties, while the raw material is within their own borders. We could go on enumerating a long list of goods imported into that country, paying duties, which could be manufactured as cheap and as well as abroad.

To develope and open these various sources of wealth, agriculture, lumbering, mining, and manufacturing, and to induce emigration from other sections requires facilities for transportation and travel by land and water. In this, the Grand Trunk railroad of Canada has done more toward the development of that great country, than all other causes combined. It has already opened new and immense fields for labor, given an impetus to business of all kinds, bringing forth from the earth its rich stores of mineral wealth, causing the country to be cleared and its fertile soil cultivated, making the land to teem with golden grain and other fruits of the earth. The products of immense forests heretofore inaccessible, are now being brought out, and made available for the use of man. Earth and sea are giving up their stores of wealth through its influence.

The Grand Trunk railroad not only makes Portland the entree port of the vast importations and exportations of Canada, but the chain of business extends from the immense far West, passing thro' Canada to this city. For four months in the year, while the ice king locks up in his cold grasp the rivers and lakes of Canada, the iron horse regardless of snow or ice, is always ready to convey to and fro the stores of wealth from this city. With a harbor second to none on the coast, always open so that the largest vessel in the world can reach its wharves, it seems as though nature intended our city to be the great central point for that immense and rapidly increasing trade. As one channel of communication is opened, another follows in its wake, every new enterprise creates others before unthought of.

The line of steamers between Montreal, Quebec and Liverpool have been remarkably successful the past year. Their business has exceeded the most sanguine expectations of their warmest friends. The latest news we have had in the States has been via Quebec by those steamers, and the route must and will become a popular one. This will be seen by a glance from the fact that Quebec is nearer Liverpool by 400 miles than N. York or Boston, and from Quebec to the Atlantic Ocean is 500 miles down the St. Lawrence river, making a saving of nearly 1,000 miles in ocean travel,—almost one-third of the distance from New York to Liverpool.

Another very important matter in connection with the Grand Trunk railroad and Portland also, is its ability to divert the pleasure travel in the summer in this direction. During the past season there has been more travel through Canada, and to the White mountains, than was ever known before. Here, in and around our own city, hundreds, and I might almost say thousands, of our Canadian friends have spent the past summer, delighted with the cool sea breeze, and beautiful scenery of this section of the country.

The favorite route for travelers now seems to be to visit Niagara, come through Lake Ontario, down the St. Lawrence to Montreal and Quebec, thence to the White mountains, and from there to Portland: and it will not be many years before this, the Forest City, will be the home of thousands through the summer months. No city can present more inducements than ours, for the seeker after pleasure or health. Its broad and shady streets, magnificent scenery of mountain and ocean, the lovely bay dotted with its numerous islands, the pure bracing air, delightful sea breezes, added to the well known hospitality of its inhabitants to strangers, have already made Portland to a very great extent the favorite resort of the Canadian tourist. The proposed celebration will bring these advantages still more distinctly to the knowledge of our friends in Canada and the west, and greatly enhance their value.—*State of Maine.*

Grand Trunk Railroad.

The Railway Celebration.—The Grand Trunk Railway line is to be opened to Toronto at an early day in October. The length of this line is 333 miles, or 12 miles less than the former estimates of its distance.

The completion of this link makes a continuous line to Iowa city 1372 miles from Portland, as follows:—

	Miles.
Portland to Montreal	292
Montreal to Toronto	333
Toronto to Hamilton	38
Hamilton to London	76
London to Detroit	111
Portland to Detroit on broad gauge lines	850
Narrow gauge lines—	
Detroit to Chicago	284
Chicago to Mississippi river at Rock Island	182
Rock Island to Iowa City	58
	522

Total length of road from Portland to Iowa City 1,372 miles.

From Toronto west the Grand Trunk line is completed to St. Mary's, 91 miles, which is to be extended to London, 19 miles the coming year, making a double line between Toronto and London. From London a single line will be extended to Sarnia, operated for the use of the Great Western and Grand Trunk Companies.

From Toronto north a line extends to Lake Huron at Collingwood, on the 5½ feet gauge, a distance of 96 miles, so that the completion of the railway to Toronto furnishes a perfect connection between the seaboard at Portland and the Far West. We hope to see at the proposed celebration at Portland, a full representation of the business men of Canada and the Western States.—*State of Maine.*

Railway Share List,

Compiled from thelatest returns—corrected every Wednesday—on a par valuation of $100 .

NAME OF COMPANY.	Length of Road.	Capital paid in.	Debt.	Total cost of road & equip't.	Gross Earnings for last official year.	Net Earnings for do.	Dividend fordo.	Price of Shares.
Atlantic & St. Lawrence	149	1,538,100	2,973,700	6,019,929	470,647	-------	6	73
Androscog. & Kennebec	55	588,042	1,622,905	2,210,947	209,475	110,247	none	10
Kennebec & Portland	56	1,114,725	1,661,236	2,470,600	-------	-------	none	5
Portl., Saco, & Portsm'th	51	1,367,000	119,237	1,486,327	270,214	112,491	6	85
Boston, Conc. & M'ntreal	93	1,808,093	1,059,512	2,771,310	233,234	120,834	----	----
Cheshire	53	2,085,925	899,313	3,179,687	380,221	143,565	2	14
Concord	35	1,500,000	8,242	1,412,576	335,949	136,454	6	74
Northern, N. H.	82	2,768,400	none	3,016,633	370,529	138,299	2½	40
Conn't & Passumps. Riv.	61	1,048,145	787,608	1,780,062	162,687	55,173	none	4
Rutland & Burlington	120	2,238,376	2,662,396	5,378,428	394,971	-------	none	----
Vermont Central	117	5,000,000	3,550,236	8,463,366	820,119	214,793	none	1½
Boston and Lowell	27	1,830,000	325,635	2,188,595	489,754	140,377	6	55¾
Boston and Maine	83	4,076,974	150,000	4,179,535	854,426	339,060	6	77½
Bostonand N.Y. Central	74	2,240,300	1,518,671	3,463,418	69,917	8,740	none	7
Boston and Providence	55	3,160,000	359,132	3,677,154	558,671	219,689	none	63
Boston and Worcester	68	4,500,000	655,428	4,865,449	1,008,004	404,461	6½	82½
Cape Cod	47	681,690	280,598	997,252	119,221	65,527	3	49¾
Connecticut River	52	1,591,110	278,241	1,802,244	286,563	103,787	5¾	40
Eastern, Mass.	60	2,583,400	2,947,737	4,621,016	647,281	305,998	----	40
Fitchburg	67	3,540,000	153,700	3,765,998	681,163	225,071	----	69
North-Eastern	30	800,242	225,585	968,521	In progr.	-------	----	----
N. Bedford and Taunton	21	500,000	none	533,953	198,491	56,533	6½	----
Old Col'y and Fall River	87	3,015,100	292,650	3,362,949	653,499	295,738	6	82¾
Vermont and Mass.	77	2,232,541	1,033,670	3,209,727	288,726	87,313	none	6¾
Western, Mass.	155	5,150,000	5,966,420	10,495,905	1,869,673	633,013	7	88¼
Worcester and Nashua	46	1,141,000	205,565	1,351,271	204,780	75,760	2	43
Prov'nce and Worcester	43	1,510,020	338,461	1,806,696	311,430	138,057	----	70
Hartford and N. Haven	72	2,350,000	939,000	3,313,932	730,012	352,799	10	118
Hart'd, Prov. and Fishkill	122	2,008,110	2,030,665	4,060,869	258,685	119,611	none	----
Housatonic	110	2,000,000	414,240	2,431,773	339,196	71,427	none	----
Naugatuck	57	1,031,800	524,244	1,580,723	220,459	93,768	----	----
N. York and N. Haven	62	3,000,000	2 376,803	5,376,803	884,306	338,877	none	25
N. Haven and N. London	50	738,258	735,165	1,450,318	88,007	30,318	none	----
N. London, W. & Palmer	66	509,200	1,073,673	1,594,383	124,044	66,430	none	----
Norwich and Worcester	66	2,122,300	873,489	2,597,153	304,236	88,458	2½	25
Albany Northern	32	439,005	1,625,098	1,840,695	117,716	9,904	----	----
Black River and Utica	35	643,330	317,859	974,323	In progr.	-------	----	----
Buffalo, Corn. and N. Y.	100	1,487,874	1,501,183	2,819,096	172,476	66,333	none	----
Buffalo and N. Y. City	92	798,439	2,587,849	3,401,868	288,392	31,896	none	----
Buffalo and St. Line	69	1,300,000	1,040,000	2,494,364	679,750	355,763	10	----
Canandaigua and Elmira	47	434,111	922,393	1,275,796	174,089	69,506	----	----
Canandaigua & Niagara F'l	98	1,315,000	2,279,854	3,495,832	-------	-------	----	----
Cayuga & Susquehanna	35	687,000	506,689	1,187,562	135,433	48,649	none	----
Hudson River	144	3,758,466	9,250,362	12,737,898	1,812,087	603,946	none	28½
Long Island	95	1,875,148	668,949	2,555,986	301,793	116,462	none	26
New York Central	534	24,154,860	14,462,742	28,523,913	6,563,581	3,162,126	8	86¾
New York and Erie	464	10,023,958	25,126,669	33,439,431	5,488,993	2,627,118	none	62¾
New York and Harlem	133	5,717,100	4,069,769	8,758,203	1,635,577	234,126	none	15
Northern, N. Y.	118	1,633,022	4,406,874	5,470,714	520,153	135,754	none	1
Oswego and Syracuse	35	399,000	216,681	723,683	126,540	59,982	3½	----
Pottsdam and Watertown	29	467,200	294,189	749,683	In progr.	-------	none	----
Rensselaer & Saratoga	25	610,000	140,000	896,423	241,149	82,600	7	----
Saratoga and Whitehall	48	500,000	395,600	-------	71,909	21,089	none	----
Syracuse & Bingham'n	80	768,369	1,578,804	2,272,777	159,484	22,503	none	----
Troy and Boston	27	437,830	737,079	1,109,822	156,363	55,184	----	----
Watertown and Rome	97	1,370,378	700,979	2,068,063	404,374	172,474	3½	90
Belvidere Delaware	64	1,000,000	1,619,000	2,619,000	161,355	75,534	none	----
Camden and Amboy	94	3,000,000	11,407,200	8,636,523	2,017,127	961,941	12	124
Camden and Atlantic	60	369,320	1,522,131	1,729,642	122,417	50,080	none	----
New Jersey	30	3,482,850	690,000	4,310,011	861,514	500,747	10	121
New Jersey Central	63	2,000,000	2,266,176	3,683,149	393,728	171,603	----	----
Morris and Essex	53	1,157,805	375,000	1,636,550	229,341	96,267	6	----
Alleghany Valley	44	1,637,867	342,564	1,988,317	Recently	opened.	----	----
Cataw., Wil. & Erie	63	1,700,000	1,940,000	3,640,000	219,253	52 450	----	----
Cumberland Valley	56	1,099,500	12,211	1,191,833	146,381	66,994	----	----
Del. Lack. & Western	109	3,051,622	3,884,702	6,022,667	528,911	259,263	6	80
Erie and North East	20	600,000	150,000	750,000	-------	-------	10	----
Philad. & Sunbury	33	600,000	1,200,000	1,348,812	89.535	53,335	----	----
Little Schuylkill	28	2,606,100	546,222	3,407,651	353,301	255,930	9	----
Northern Penn.	19	2,530,855	731,492	3,287,678	-------	-------	----	----
Pennsylvania	256	12,355,525	7,519,096	18,483,489	3,533,333	1,829,277	6	97
Phil. and Reading	96	11,030,309	7,438,800	19,004,180	4,321 793	2,593,915	10	85
Phil. Wil. and Baltimore	98	5,312,805	3,032,003	7,979,466	942,449	371,124	----	43
Phil. Germ. & Norrist'n	38	899.350	376 800	1,274,150	206,981	113,443	9	59¼
Pittsb. and Connellsville	147	1,339,661	111,493	1,369,630	In progr.	-------	----	----
Sunbury and Erie	269	2,093,740	262,886	2,075,650	In progr.	-------	----	----
Williamsport and Elmira	78	1,500 000	2,192,364	3,464,454	503,500	253,500	----	----
Baltimore and Ohio	382	13,105,600	9,670,491	23,031,507	3,711,453	1,601,090	3	71
Washington Branch	41	1,656,000	25,000	1,650,000	369,229	124,981	6	----
Northern Central, Md.	84	1,860,000	2,630,000	5,544,733	558,427	282,182	----	----
North-Western Va.	165	413,583	4,316,073	4,729,656	In progr.	-------	----	----
Orange and Alexandria	97	1,457,500	638,622	2,754,047	211,505	111,363	----	----
South Side	123	1,371,700	1,489,012	2,739,362	123,466	59,710	none	----
Pittsb'g & Steubenville	32	1,221,277	280,000	914,695	In progr.	-------	----	----
Virginia Central	138	2,800,666	1,051,248	4,184,516	379,366	172,391	none	----
Virginia and Tennessee	149	2,500,000	2,969,780	5,469,780	255,920	126,329	----	----
Richmond and Danville	127	2,000,000	1,200,000	3,200,000	316,309	144,662	----	----
Richmond & Petersb'g	22	768,100	256,048	1,148,054	151,947	73,234	none	----
Rich'd, Fred. & Potom'c	130	1,000.000	730,506	1,708,169	232,172	120,212	7	----
Petersburg and Roanoke	63	768,000	158,502	1,009,115	263,874	123,661	4	----
North Carolina	228	4,000,000	-------	4,235,000	Recently	opened.	----	----
Wilm'ton & Manchester	171	1,070.775	1,373,989	2,330,877	339,800	151,064	none	----
Raleigh and Gaston	97	973,300	120,573	1,135,451	173,923	103,392	2½	----
Charlotte and S. Carol.	109	1,201.000	380,000	1,719,045	291,219	138,875	6	----
Greenville & Columbia	165	1,293,464	968,800	1,999,080	214,865	206,774	----	----
South Carolina	203	4,188,020	2,731,545	7,133,848	1,585,991	883,402	9	----
Atlanta and La Grange	87	719,842	225,000	1,092,222	251,076	161,193	7½	----
Georgia	211	4,156,000	260,991	4,416,991	1,068,202	550,350	7½	----
Georgia Central	191	3,833,140	none	3,833,140	1,280,570	645,774	9	----
Macon and Western	102	1,280 560	167,712	1,647,045	350,802	96,104	10	95
Montgom'ry & W. Point	116	1,274,000	654,816	1,929,416	249,128	113,824	8	----

NAME OF COMPANY.	Length of Road.	Capital paid in.	Debt.	Total cost of road & equip't.	Gross Earnings for last official year.	Net Earnings for do.	Dividend for do.	Price of Shares.
Brunswick and Florida, Ga.	30	300,000	300,000	550,000	In progr.	-------	----	----
South Western	92	1,097,496	465,500	1,624,920	253,306	141,168	8	----
Tennessee and Alabama	30	246,486	-------	679,906	In progr.	-------	----	----
Tennessee and Missis.	----	170,931	-------	175,840	In progr.	-------	----	----
Memphis and Charlest'n	217	2,179,440	2,127 002	4,028,796	311,631	159,572	----	----
Mobile and Ohio	153	2,568,555	1,802,921	4,536,412	199,932	109,236	----	----
Miss. Central	188	642,534	none	628,303	In progr.	-------	----	----
N.O., Opelousas & G.W.	55	2,930,425	671,645	2,657,565	In progr.	-------	----	----
Vicksb., Shrevep. & Tex.	----	111,750	none	107,895	In progr.	-------	----	----
East Tennessee and Ga.	111	1,000,000	1,500,000	2,500,000	In progr.	-------	----	----
East Tennessee and Va.	16	625,425	938,593	1,033,781	In progr.	-------	----	----
Nash. and Chattanooga	151	2,319,330	1,497,081	3,843,694	316,090	112,177	none	----
Covington & Lexington	98	1,302,804	2,235,939	3,738,753	264,973	138,694	----	18
Lexington and Frankfort	29	430,055	158,099	637,071	93,263	43,635	6	----
Lexington and Danville	----	694,444	52,734	747,178	In progr.	-------	----	----
Louisville and Frankfort	65	698,236	669,061	1,589,566	244,014	96,902	6	----
Atlantic & Gt. Western	254	866,939	77,294	613,231	In progr.	-------	----	----
Bellefontaine and Ind.	118	1,881,635	2,025,925	2,852,652	298,293	140,823	none	30
Clev., Col., and Cincin.	141	4,547,020	122,857	4,613,722	1,290,295	732,056	9	102½
Cleveland and Toledo	200	2,675,425	2,689,301	5,124,629	736,272	396,986	10	77
Clev. and Mahoning	103	-------	-------	628,533	In progr.	-------	----	----
Clev. and Pittsburg	133	2,780,744	3,043,992	5,537,466	581,877	309,518	----	59¼
Cin., Hamil'n & Dayton	60	2,153,900	1,321,213	2,987,757	508,271	278,012	----	66½
Cin., Wilm. & Zanesv'e	131	1,120,450	1,131,265	2,326,459	In progr.	-------	----	12
Columbus and Xenia	55	1,484,550	149,000	1,481,733	356,366	187,518	10	82
Dayton, Xen., & Belpre	63	437,838	422,658	860,496	In progr.	-------	----	----
Dayton and Michigan	140	1,076,602	393,011	1,185,826	In progr.	-------	----	----
Dayton and Western	35	310,000	500,000	733,769	-------	-------	----	17
Eaton and Hamilton	42	454,690	904,489	1,155,135	171,929	65,000	----	20
Little Miami	65	2,963,921	1,171,785	3,648,172	681,562	336,708	----	88
Mad River and L. Erie	205	2,451,650	2,572,932	4,446,661	-------	-------	----	15
Central Ohio	138	1,520,927	3,485,076	4,283,443	Recently	opened.	none	----
Ohio and Penn.	187	2,451,700	3,219,000	5,670,700	1,111,626	662,117	9	50
Pittsb'g, Mayav'e & Cin.	50	371,350	31,000	390,933	In progr.	-------	----	----
Sand'y, Mansf. & New'k	127	1,350,000	2,206,357	3,552,357	328,958	164,479	none	----
Scioto & Hocking Valley	135	403,975	509,050	888,858	In progr.	-------	----	----
Springf., Mt. Vernon & P.	113	1,000,000	950,000	-------	In progr.	-------	----	----
Tol., Wabash & St. Louis	242	2,500,000	4,530,000	-------	In progr.	-------	----	----
Cin., Log., and Chicago	255	4,196,679	1,006,125	2,080,433	In progr.	-------	----	----
Evansv'e & Crawfordsv.	109	706,945	1,177,596	1,844,541	127,400	64,552	----	----
Ind. and Cincinnati	88	1,213,723	1,442,859	2,178,461	356,012	193,142	7	60
Indiana Central	66	611,400	1,261,179	1,907,911	350,176	134,375	----	45
Ind., Clev. & Pittsburg	83	826,825	1,099,400	1,831,225	226,058	93,010	none	----
Jeffersonville	66	1,014,252	694,000	-------	206,544	94,318	none	----
Madison and Indianapolis	87	1 647,700	1,336,816	1,205,000	286,146	112,880	none	----
New Albany and Salem	288	2,535,121	5,281,848	6,643,189	645,827	371,402	none	----
Peru and Indianapolis	73	-------	858.314	-------	150,000	90,000	none	16½
Terre Haute and Ind.	73	974,800	604,355	1,502,166	287,512	189,702	10	----
Chicago and Rock Isl'd	182	3,141,500	2,387,155	5,214,152	In progr.	-------	----	97
Chicago and St. Louis	220	-------	-------	1,077,312	-------	-------	----	----
Chicago, Burl. and Quincy	58	1,639,100	1,684,736	2,884,622	722,580	379,821	20	----
Central Military Tract	88	1,202,500	2.133 050	2,920,241	471,399	219,588	----	----
Chic., St. Paul & F'd du Lac	178	2,300,000	1,325,000	3,625,000	In progr.	-------	----	----
Galena and Chicago	259	5,441,500	3,318,039	7,742,614	2,315,786	1,192,042	22	119¾
Illinois Central	627	2,271,050	19,416,392	20,374,446	1,532,118	527,952	----	117½
Peoria and Oquawka	93	569,889	818,454	1,388,342	In progr.	-------	----	----
Ohio & Miss. (Wst. Div.)	147	1,780,295	3,292,403	4,870,586	Recently	opened.	----	----
Terre Haute and Alton	173	2,281,420	1,256,000	3,537,424	In progr.	-------	----	----
Detroit and Milwaukee	185	838,000	1,128,964	1,966,969	In progr.	-------	----	----
Mich. Central	282	6,032,444	5,996,013	10,668,155	2,215,283	879,656	10	92¾
Mich. South'n & N. Ind.	475	6,928,900	6,319,224	11,645,208	2,410,000	875,000	10	90
Green Bay, Mil. & Ch.	155	764,075	442,726	1,193,765	In progr.	-------	----	66
Milwaukee and Miss.	106	1,826,428	2,467,889	3,578,757	691,843	417,443	17	77½
Milwaukee & Watert'n	72	354,861	132,000	514,238	In progr.	-------	----	----
Milwaukee and Horicon	15	554,200	-------	354,109	In progr.	-------	----	----
Milwaukee & La Crosse	51	1,351,832	532,131	1,883,963	In progr.	-------	----	70½
Racine and Miss.	47	921,906	380,715	1,289,321	In progr.	-------	----	----
Hannibal & St. Josephs	----	292,351	580,000	823,310	In progr.	-------	----	----
North Missouri	19	-------	-------	1,824,346	In progr.	-------	----	----
Pacific	125	4,083,900	4,337,828	7,115,949	Recently	opened.	----	----
St. Louis and Iron Mt.	----	445,170	-------	186,115	In progr.	-------	----	----
Panama	49	3,743,000	-------	6,564,852	628,850	416,756	9¼	91¼

U. S. GOVERNMENT SECURITIES.

	OFF'D. Per ct.	ASKED. Per ct.		OFF'D. Per ct.	ASKED. Per ct.
Loan, 6 per ct.----1856	101¼	-----	Loan, 6 per ct.----1868	117¾	-----
Do. 6 do. ----1862	111¼	-----	Do. 6 do. coup's---1868	117¾	-----
Do. 6 do. ----1867	117¾	118¼	Do. 5 do. Tex. ind.-1866	107¼	-----

STATE SECURITIES.

Maine, 6 per ct.----1860	101¼	103	Indiana, Can. Loan, 6 per ct.	----	----
Massachusetts, 5 per ct. 1859	98¼	99¾	Do. do. pref. 5 do.	----	----
Do. 5 stg.----	100	101	Kentucky, 6 per ct. cp. 1869	72	103
New York, 6 per ct. 1860-62	106	109	Louisiana, 6 do. cp. long	92	92½
Do. 6 do. 1864-65	108	114	Maryland, 6 do cp. 1870-90	103	105
Do. 6 do. 1866-67	110	115	Do. 5 do. cp.	----	----
Do. 6 do. 18/2-73	116	117¼	Missouri, 6 do. cp.---1872	86½	88
Do. 5¾ do. 1860-61	103½	----	N. Carolina, 6 do. cp.---1873	96	96¾
Do. 5½ do. ---1865	-----	-----	Ohio, 6 do.----1856	99¼	100
Do. 5 do 1858-60	101½	103	Do. 6 do.----1860	102¾	103¾
Do. 5 do. ---1866	105½	106¼	Do. 6 do.----1870	105	108
Do. 4½ do. 1858 59-64	99	101	Do. 6 do.---- 75	----	109
Alabama, 5 do. coup.	85	95	Do. 5 do.---- 1865	----	99
California, 7 do. coup. 1870	80½	85	Penna., 5 do.----	83¾	83¾
Georgia, 6 do; do. 1872	99	-----	Do. 5 do. cp ---1877	89	90
Illinois Int. Imp. 6 per ct. 1847	110	114	Tenness. 5 do. cp.----	74½	77
Do. 6 do. Int'est.	80	----	Do. 6 do. cp.----	93	93½
Indiana do.	82½	83	Virginia, 6 do. cp.---1886	92¼	92¾
Do do.	54	55			----

Railroad Bonds.

NAMES OF COMPANIES. (*The following quotations are ex-interest.*)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked.
Alabama and Tennessee River	$838,000	1st mortgage, convertible	7	1st Jan. 1st July	N.Y.	1872	----	85½
Buffalo and State Line	500,000	Do. inconvertible	7	April, October	"	1866	----	97½
Bellefontaine and Indiana	600,000	Do. convertible	7	Jan'y, July	"	1866	----	85
Do. do.	200,000	Real estate, convertible	7	Jan'y, July	"	1858	----	----
Do. do.	200,000	Income, guar. Cl. Col. & Cin.	7	Feb'y, August.	"	1859	----	----
Central Ohio	1,250,000	1st mort. conv. east. sec.	7	Divers	"	1861-64	----	85
Do.	800,000	2d do. inconvertible	7	March, Sept.	"	1865	----	72½
Cincinnati, Hamilton, and Dayton	500,000	1st mortgage inconvertible	7	20. Jan. 20. July	"	1867	89	91
Do. do. do.	465,000	2d do. do.	7	May, Novemb.	"	1880	80	84
Cincinnati and Marietta	2,500,000	1st mortgage, conv. till 1862	7	Jan'y, July	"	1868	70	77½
Cincinnati, Wilmington, and Zanesville	1,300,000	Do. convertible	7	May, Novemb.	"	1862	----	85
Cleveland, Painesville, and Ashtabula	567,000	Do. inconvertible	7	Feb'y, August.	"	1861	91	95
Cleveland and Pittsburgh	800,000	Do. convertible	7	Feb'y, August.	"	1860	----	93
Do. do.	1,200,000	Do. on Branches	7	March, Sept.	"	1873	77	80
Cleveland and Toledo	525,000	Do. inconvertible	7	Feb'y, August.	"	1863	----	87½
Chicago and Mississippi	800,000	Do. conv. till 1857	7	April, October.	"	1862-72	65	80
Do. do.	1,200,000	Do. inconvertible	7	April, October.	"	1862-72	65	80
Covington and Lexington	400,000	Do. do.	6	April, October.	"	1867	----	75
Do. do.	1,000,000	2d mortgage, convertible	7	March, Sept.	"	1883	62	65
Delaware, Lackawanna, and Western	1,500,000	1st mortgage, do.	7	April, October.	"	1875	----	91
Fort Wayne and Chicago	1,250,000	Do. conv. till 1863	7	Jan'y, July	"	1873	----	80
Galena and Chicago	2,000,000	Do. inconvertible	7	Feb'y, August.	"	1863	93½	94½
Do. do.	2,000,000	2d mortgage, do.	7	May, Novemb.	"	1875	85	86½
Great Western (Illinois)	1,000,000	1st mortgage, do.	10	April, October.	"	1868	----	90
Green Bay, Milwaukee, and Chicago	400,000	Do. convertible	8	10. April, 10. Oc.	"	1863	90	95
Jeffersonville	300,000	Do. 2d sec. inconv.	7	April, October.	"	1873	----	75
Indiana Central	600,000	Do. convertible	7	May, Novemb.	"	1866	----	90
Indianapolis and Bellefontaine	450,000	Do. do.	7	Jan'y, July	"	1860-61	79	82
Indianap. & Cin'ti (for Lawb. & U. M.)	500,000	Do. conv. till 1857	7	March, Sept.	"	1866	----	85
La Crosse and Milwaukee	950,000	1st mort. 1st sec. conv. till 1864	8	May, Novemb.	"	1874	84½	85
Lake Erie, Wabash, and St. Louis	3,400,000	1st mortgage, conv. till 1859	7	Feb'y, August.	"	1865	70	72½
Little Miami	1,500,000	Do. inconvert.	6	2. May, 2. Nov.	"	1883	77½	80
Michigan Central	1,000,000	No mortgage, convertible	8	April, October.	Bost.	1860	100	101
Do.	600,000	Do. do.	8	March, Sept.	"	1869	101	102½
Milwaukee and Mississippi	600,000	1st mort. 1st sec. conv. till 1857	8	Jan'y, July	N.Y.	1862	94½	96
Do. do.	650,000	Do. 2d do. 1858	8	April, October.	"	1863	94½	95½
Do. do.	1,250,000	Do. 3d do. 1860	8	June, Decemb.	"	1877	88	89
New Albany and Salem	500,000	Do. 1st section	10	April, October.	"	1858-62	----	----
Do. do.	2,325,000	Do. oth. sec. con. till 1858	8	May, Novemb.	"	1864-75	----	----
Northern Cross	1,200,000	1st mortgage, convertible	8	Jan'y, July	"	1873	----	95
Ohio and Indiana	1,000,000	Do. do.	7	Feb'y, August.	"	1867	----	90
Ohio and Pennsylvania	1,750,000	Do. do.	7	Jan'y, July	"	1865-66	----	96
Do. do.	2,000,000	Income, convertible	7	April, October.	"	1872	----	79
Pennsylvania (Central)	5,000,000	1st mortgage, conv. till 1860	6	Jan'y, July	Phila.	1880	97½	98
Racine and Mississippi	680,000	Do. conv., sink'g f'd	8	Feb'y, August.	N.Y.	1875	78	85
Scioto and Hocking Valley	300,000	Do. 1st sec. conv	7	May, Novemb.	"	1861	----	----
Steubenville and Indiana	1,500,000	Do. convertible	7	Jan'y, July	"	1865	----	80
Terre Haute and Indianapolis	600,000	Do. do.	7	March, Sept.	"	1866	98	100
Terre Haute and Alton	1,000,000	Do. do.	7	Feb'y, August.	"	1862'7'72	77	79
Do. do.	2,000,000	2d do. do.	8	Feb'y, August.	"	1870	71	72

NAMES OF COMPANIES. (*The following quotations include the accrued interest.*)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked
Baltimore and Ohio	2,500,000	Mortgage	6	April, October	Balt.	1885	86⅝	87
Do. do.	1,128,500	Do.	6	Jan'y, July	Balt.	1875	87	88
Chicago and Rock Island	2,000,000	1st mortgage, conv. till 1858	7	10. Jan. 10. July	N.Y.	1870	92½	93
Erie Railroad	3,000,000	1st mortgage	7	May. Novemb.	"	1867	105¼	107
Do.	4,000,000	2d mortgage, convertible	7	March, Sept.	"	1859	95½	97
Do.	6,000,000	3d mortgage	7	March, Sept.	"	1883	96½	97
Do.	4,000,000	Not conv. Sink. Fund, $420,000	7	Feb'y, August.	"	1875	93⅛	95
Do.	4,351,000	Convertible, Inscription	7	Feb'y, August.	"	1871	86⅛	87
Do.	3,500,000	Convertible	7	Jan'y, July	"	1862	91	93½
Hudson River	4,000,000	1st mortgage, Inscription	7	Feb'y, August.	"	1869-70	97¼	97⅜
Do.	2,000,000	2d do. do.	7	16. June, 16. Dec	"	1869	85	86
Do.	3,000,000	3d do. convertible	7	May, Novemb.	"	1870	66	66½
Illinois Central	17,000,000	Mortgage, inconvertible	7	April, October.	"	1875	94	94¼
Do. (Free Land)	3,000,000	M'ge 345,000 acre-priv. 7 shar's	7	March, Sept.	"	1860	103¼	----
Michigan Southern	1,000,000	1st mortgage, inconvertible	7	May, Novemb.	"	1860	92½	----
New York and Harlem	1,800,000	Do. do.	7	May, Novemb.	"	1861-72	82⅜	83
New York and New Haven	750,000	No mortgage, do.	7	June, Decemb.	"	1855'60'6	81	83
New Haven and Hartford	1,000,000	1st mortgage, do.	6	Jan'y, July	"	1873	----	94
Northern Indiana	1,000,000	Do. do.	7	Feb'y, August.	"	1861	90⅜	----
Do. Goshen Branch	1,500,000	Do. do.	7	Feb'y, August.	"	1868	84½	86
New York Central	8,287,000	No mortgage, do.	6	May, Novemb.	"	1883	88⅝	89
Do. do.	3,000,000	No m'ge conv. from June 57-59	7	15. June, 15. Dec	"	1864	100¾	101⅜
Panama, 1st issue	900,000	Convertible till 1856	7	Jan'y, July	"	1866	----	100
Do. 2d do.	1,478,000	Do. till 1858	7	Jan'y, July	"	1866	----	100
Reading, issued 1843	1,573,000	Mortgage, inconvertible	6	Jan'y, July	Phila.	1860	----	----
Do. do. 1844, '48, '49	1,300,000	Do. convertible	6	Jan'y, July	"	1860	89	----
Do. do. 1849	3,469,000	Do. inconvertible	6	April, October	"	1870	86¾	----

CITY SECURITIES.	Int'st payable.	Off'd	Askd
New York. 7 per ct. 1857	Feb'y,	100	101
Do. 5 do. 1858-'60	May,	94	97
Do. 5 do. 1870-'75	August, and	92	94
Do. 5 do. 1890	November.	94	94½
Albany, 6 per ct. coup. 1871-'81 X	Feb'y, August.	97	100
Alleghany, 6 per ct. coup. X	Jan'y, July	----	76
Baltimore, 6 per ct. 1879-'90	Quarterly	97	98½
Boston, 5 per ct. coup. X	April October.	97	99
Brooklyn, 6 per ct. coup. Long X	Jan'y, July	----	100½
Clev'l'd, 7 per ct. cp. W. W. 1879 X	Do. do.	101	102
Cincinnati, 6 per ct. coup. X	Divers	----	99
Chicago, 6 per ct. coup. 1873-'77 X	Jan'y, July	89	90
Do. 7 per ct. coup. 1880 X	Jan'y, July	----	100½
Detroit, 7 per ct. cp. WW. 1873-'78 X	Feb'y, August.	101	102½
ubuque, 8 per ct. cp. Long X	March, Sept.	101½	----
Jersey City, 6 p.ct.cp. WW. 1877 X	Jan'y, July	94	96
Louisville, 6 per ct. cp. 1880-'83 X	Divers	79	80
Memphis, 6 per ct. coup. 1882 X	Jan'y, July	----	68

CITY SECURITIES.	Int'st payable.	Off'd	Askd
Milwaukee, 7 per ct. coup. X	Divers	80	82½
New Orleans, 6 per ct. cp. R.R. X	Do.	77	80
N. Orleans, 6 per ct. cp. municip. X	Jan'y, July	83	86
Philadelphia, 6 per ct. 1876-'98	Jan'y, July	89½	89¾
Pittsburgh, 6 per ct. coup. X	Divers	74	75¾
Quincy, 8 per ct. coup. 1868 X	Jan'y, July	----	----
Racine, 7 per ct. coup. 1873 X	10. Feb'y, Aug	----	85
Rochester, 6 per cent. coup. X	Divers	95	100
St. Louis, 6 per ct. coup. Long X	Do.	77⅛	78⅛
Do. do. Municipal X	Do.	80	81
Sacramento, 10 p.ct. cp. 1862-'74 X	Do.	73	75
S. Fr'cisco, 7 p.c.cp. 1865, pay. N.Y. X	May, Novemb.	----	80
Do. 10 p. ct. cp. 1871 X	Do. do.	----	----
Do. 10 do. pay. N.Y. X	Jan'y, July	----	----
Do. 6 per ct. pay. N.Y. 1875 X	Do. do.	55	60
Wheeling, 6 per ct. coup. X	Divers	----	67⅛
Do. 6 p.ct. cp. Mun. 1874 X	March, Sept.	----	81⅛
Zanesville, 7 do. X	April, October	----	97⅛

Cincinnati Stock Sales,

By KIRK & CHERVER.

For the week ending September 16th, 1856.

BONDS.

	Per ct.
Little Miami, 6 per ct. Mort.	80
Covington & Lexington, 2nd Mort. 7 per ct.	66
Ohio & Mississippi, 2nd Mort. 7 per ct. (Eastern Division)	48
Indianap & Cin., 2nd Mort. 7 per ct.	80
Cin., Ham. and Dayton, 2nd Mort. 7 per ct.	92
Hillsboro' and Cin., 7 per cent. 1st Mortg.	47¼
Covington & Lexington, 10 per ct Income	54
Indianapolis and Cincinnati Dividend	70
Columbus and Xenia Dividend, due Jan'y 1, 1861	88
Do. do. do. due July 1, 1866	85
Little Miami, Dividend Scrip, issued June, 1856	79

STOCKS.

Bellefontaine and Indiana, 30.—Cin., Ham. and Dayton, 66.—Col. and Xenia, 82.—Cincinn. and Chic., 3¼.—Covington & Lexington, 15.—Dayton & Western, 17.—Eaton and Hamilton, 20.—Indiana Central, 50.—Indianapolis and Cincinnati, 58.—Little Miami, 88.—Mad River & Lake Erie, 15.—Marietta and Cincinnati, 14.—Ohio and Mississippi, 5.—Hillsboro' and Cincinnati, 14.—Peru and Indianapolis, 12.—Cincinnati, Wilmington and Zanesville, 12.

By HEWSON & HOLMES.

For the week ending September 17th, 1856.

BONDS.

$8,000	Covington & Lex., 7 per cent. 2d Mort.			65
3,000	Do.	do. 6 do	1st do.	70
5,000	Ohio and Miss. 7 per cent. 2d Mortgage			50
2,000	Indiana Central, 10 per ct. Inc., due in '58			90
1,000	Cinc., Ham. and Dayt. 7 per ct., due in '80-82.			(& int.)
4,000	Cin., Wilm. and Zanesv. 7 per ct. Income			20
725	Little Miami, Dividend Scrip, June, 1856			80
225	Do.	do.	issued Dec. 1855	80
112	Do.	do.	do June, 1855	95
500	Cin., Ham. & Dayt., 7 per ct. Divid., due in 1857			105

STOCKS.

108	Shares	Indianapolis & Cincinnati	58
200	"	Cincinnati and Chicago	3¼ "
29	"	Ohio and Mississippi	5½ "
25	"	Do. do.	6 "
300	"	Do. do. b60d.	6 "
100	"	Mad River & Lake Erie	15
20	"	Little Miami	88½
50	"	Cin., Wilm and Zanesv.	12¾
35	"	Covington and Lexington	15 "
100	"	Indianapolis and Cincinnati	60

Marie & Kanz' Money Circular for the European Steamer of the 24th inst.

[TRANSLATED EXTRACT.]

NEW YORK, *Monday*, Sept. 22, 1856.

Our last advices were dated Sept. 16, since, under a large speculative movement in Erie stock, the market has been rather fluctuating, reaching its highest point on Thursday last, but closing today with a downward tendency, prices of all railroad stocks, Erie excepted, showing a decline from last week's quotations. In railroad bonds and State stocks the usual amount of transaction has taken place without much change in prices.—The week, altogether has been marked by great activity. There have, also, been some purchases made for European account, including Erie stock, La Crosse and Milwaukee, and Racine and Mississippi bonds, in larger amounts than usual. Money, notwithstanding the increased exportation of specie, has been in good supply, and rates of interest show hardly any change. State Stocks.—Virginias declined ⅛ and Missouris ¼, with fair transactions. Tennessee 6 per cents sold at former prices, and California, 1875, advanced again 1 per cent. Railroad Bonds.—The purchases have not been very large. Illinois Centrals fell off ⅝; Erie bonds are firm, and scarce; 1875 bonds advanced 1; 1883 bonds ½; and 1871 bonds ¾; about $50,000 La Crosse and Milwaukee Sinking Fund bonds at an advance, and $20,000 Racine and Mississippi bonds at 79 have been taken for Europe; City and County bonds remain inactive, with a very limited demand. Railroad Shares.—The transactions in Erie have been enormous, averaging from 10,000 to 15,000 daily, reaching 63¾, and closing still at an advance of 1¼ per cent.; Reading is very heavy, the decline from last week being 1⅜; Michigan Central declined ⅛; Michigan Southern 1¼; Cleveland and Toledo 1½; Cleveland and Pittsburg ⅝; Milwaukee and Mississippi ⅓.—Money is without change; on call 7; discounts 7½a9 for best names; 10a12 for paper less known. Exchanges are very firm, and Continental Exchanges were a fraction higher. London 109½a109⅞. Paris 5.16¼a5.15. Transactions limited.

MARIE & KANZ.

Extract from De Coppet & Co.'s Money Circular for the European Steamer of the 24th inst.

[TRANSLATED.]

NEW YORK, *Tuesday, Sept.* 23, 1856.

The general characteristics of our Stock market have not very materially changed since our last advices of 16th inst. A larger exportation of Specie during the week than had been anticipated, has produced but little effect upon the Money market; but stocks have been more affected by this fact. With general animation at the Stock Exchange there was a decline in prices, and after having in many cases risen above our previous prices, our to-day's quotations show some decline upon last week's. The shares of Erie Railroad have been the object of a lively speculation, with out the rest of the list sympathizing in the movement to any marked degree. The demand for Western railroad bonds continues very limited; a few parcels, however, have changed hands upon European orders. State Stocks—There was an active demand for Missouri 6s at a shade decline. Some Tennessee 6s without fluctuation, and Virginia 6s at a decline of ⅝ have also been done.—City and County Bonds.—San Francisco 6s were in fair request, and have risen since the interest coupons have been taken up. There are but few offering. There continues to be great dullness in this class of securities, and we hear of only a few retail transactions in St. Louis 6s City and County; in Mobile 8s, and in Sacramento 10s. Railroad Bonds—At the Stock Exchange there were large transactions in Illinois Central Construction.—Freeland Bonds with privilege have risen 1¼ per cent. Erie 7s, 1871, and Michigan Southern and Northern Indiana Sinking Fund Bonds were done at steady rates, and New York Central 6s at ½ advance. At private sale there was bought upon European orders some La Crosse and Milwaukee 1st Mortgage, also some Milwaukee and Mississippi Third Section, and Burlington and Missouri 1st Mortgage, at well supported prices. Railroad Shares—There was general activity in these securities, but Erie, in particular, gave rise to enormous transactions; it rose to 63¾, and closes at 63. Other shares are nearly all somewhat lower than our previous quotations. The transactions were animated in Cleveland and Toledo, closing at 1 per cent. decline; in New York Central at ⅜; in Panama at ½; in Michigan Central at ⅜, and in Michigan Southern at ¼; in Illinois Central at ¼; in Reading at 1¼ decline. The latter fluctuated much, owing to rumors of some change in the administration. Money, without any very marked change, in active demand at 7 for short loans. Paper, 8a11, according to names and length.

DE COPPET & CO.

Iron Bridge to Goat Island.

The proprietors of Goat Island have an iron bridge nearly completed on the foundation of the old wooden structure connecting Goat Island with the main land at Niagara Falls. There are five spans, or arches, supported by stone piers. The bridge will cost some $20,000.

Insurance on Railroad Property.

The Liverpool and London Fire and Life Insurance Company have advertised to take fire risks upon all descriptions of railroad property, either upon all the perishable property of any corporation, or upon specific property or merchandize. This company was established in 1836, and now has a Board of Directors in New York and New Orleans, most of whom are large shareholders, and the whole comprising a list of some of the most respectable and substantial citizens of those cities. Among the New York Directors we observe the names of Messrs. JAS. BROWN, MORTIMER LIVINGSTON, WM. S. WETMORE, FRANCIS COTTENET, and GEO. BARCLAY.

The *American Railroad Journal* thus speaks of the proposal:

"Railroad companies have often greater reasons for insuring perishable property, than private individuals. Independent of risk of loss, a small sum annually will insure regular dividends to stockholders, which are now often interfered with by heavy losses from fire. Every railroad should keep a portion at least of its perishable property insured. An excellent opportunity is now afforded in a company of the highest respectability and of ample means."—*Savannah News.*

American Railroad Journal.

Saturday, September 27, 1856.

Spartanburg and Union Railroad.

This road commences at Alston, 25 miles northwest of Columbia, on the line of the Greenville and Columbia railroad, and extends to Spartanburg, 67 miles. It is completed and running to Shelton, 20 miles.

John L. Young, Esq., who was elected President upon the resignation of Hon. D. Wallace, in Jan'y last, in a recent report to the stockholders, states that the financial condition of the company since his official connection with it, has been embarrassed. He found its credit prostrate, abused on all sides; as wanting in good faith, and unable to carry out its obligations. After devoting a large proportion of his time to the investigation of its condition, Mr. Young, in his report, gives a detail of all the transactions of the company since its organization. The following is a synopsis of the accounts:

Received from all sources in cash, stock and notes	$650,733 62
Expended	631,108 92
Balance	$19,624 70
To which add balance due by stockholders	97,729 38
Assets yet unexpended	$117,354 08
Amount expended on road and outfit	$631,108 92
Amount due contractors	171,462 30
Cost of road	$802,571 22
Estimated as necessary to finish the road to Spartanburg, including locomotives, cars, water stations, workshops, &c.	400,000 00
Total cost of road completed to Spartanburg	$1,202,571 22

equal to 17,180 per mile including outfit.

From amount due contractors as above	$171,462 30
Deduct assets as above	117,354 08
Leaves	$54,108 22

which is the debt of the company after all the assets are paid out. About $40,000 of this debt is now sued on, and as judgments will probably be obtained, the property of the company will be liable to levy and sale, unless provisions are made for its payment.

After an examination of the work already completed, and the financial affairs of the company, the president is of opinion "that it is yet in the power of the stockholders to complete the construction of the road as originally intended, with profit to themselves."

At the last annual meeting an issue of coupon bonds to the amount of $400,000 was authorized, but with such limitations as to the price at which they were to be disposed of, that they were never executed or offered for sale; to this is attributed the cause of the present embarrassment of the company.

The President is of opinion that while the most practical way to raise money to build and equip the road is by the sale of bonds, they should not be issued all payable the same year, and proposed that the sum be divided as to time of payment—say in 20, 22 and 24 years.

In conclusion he says:

"It is evident that the work cannot progress without more means are afforded; it is for you to say, after so large an expenditure of money, and in view of the great benefits to be derived from the road, whether the enterprise shall be permitted to fail, for the want of the comparatively small sum required to complete it, or whether the money shall be promptly afforded. Every consideration of interest and patriotism suggests the latter course, and I know that the stockholders along the line of the road are able to afford all that is required without injury or hardship. It is to you I appeal. If aid is afforded, the road will be built; if not, the stockholders will lose what money they have already paid, and continue to be deprived of the means of speedy communication with the world, and fall behind our neighboring districts in progress and civilization."

Grand Trunk Railway.

A contract has been made with Messrs. Gzowski & Co. for the building of the line from St. Mary's to London, Canada West, for £8,000 sterling per mile, including the right of way and rolling stock, to be completed by January 1, 1858.

American Institute Fair.

The twenty-eighth annual Fair of the American Institute was opened in this city, on the 22d inst., and will continue till the 25th of October. More than a hundred workmen are now engaged making preparations for the reception of machinery and other articles. The exhibition of all the important material interests of the country will probably be much larger than at any previous Fair.

Maryland Institute Fair.

The ninth annual exhibition of American manufactures and the Mechanic Arts, under the direction and superintendence of the Maryland Institute for the promotion of the mechanic arts, will be opened at the Hall of the Maryland Institute, in Baltimore, on Wednesday, the 1st of October next, and continue to Wednesday, the 29th of the month. The Hall was opened for the reception of goods on the 23d instant. On the evening of the 1st of October, at 7 o'clock, the exhibition will be opened for the reception of visitors. The closing address will be delivered and the premiums announced on the closing evening by the President of the Institute, the Hon. Joshua Vansant.

Chicago, Iowa and Nebraska Railroad.

This road commences at the town of Clinton, on the west bank of the Mississippi, a few miles below Fulton, at which place it will connect with the Chicago, Fulton and Iowa Railroad. This latter road is 136 miles in length, and is almost an air line. It is completed and two daily trains each way are now running between Chicago and Fulton. Several miles of rails for the Clinton road have already been received, and it is expected that 20 miles will be completed this year. In October, 60 miles more, to Cedar Rapids, will be let, and the work commenced along the whole line. We learn from the Chicago *Press*, that the stock necessary to build the road to that point is already secured, and that it is the intention of the company to have the entire road (70 miles)

completed by the 1st of January, 1858. The first locomotive for this road arrived at Clinton on the 18th inst. It was transported across the Mississippi under the direction of the Chief Engineer, MILO SMITH, Esq.

Russian Rails.

The Russians have commenced to manufacture rails for their railroads, and they are said to be superior to the English, although somewhat dearer. Prior to the late war, all their rails were imported from England. Two great proprietors of Russian forges are engaged to manufacture all the rails required for the new railroads.

Rock Island and Chicago Railroad.

This company have just issued a report which covers two years ending July 1st.

The earnings for this period have been as follows:

From July 10, 1854, to July 1, 1855	$1,242,906.19
From July 1, 1855, to July 1, 1856.	1,416,304.08
Total for two years	$2,659,210.27

The disbursements of the same period have been for operating:

Expenses	$1,326,995.20
Interest on debt	206,955.00
Bureau Valley road rent	125,000.00
Dividends	502,981.00
Total	$2,161,931.20

Leaving a surplus of $497,279.07.

The annexed statement shows the earnings for each month, of the Chicago and Rock Island railroad, from July 10, 1854, to July 1, 1856:

1854.	Pass'gs.	Freight.	Mails.	Total.
July [20 days].	$31,560	21,146	1,591	54,298
August	50,430	41,037	1,591	93,059
September	76,303	49,409	1,591	127,304
October	110,435	55,810	1,591	167,837
November	87,480	54,070	1,591	143,141
December	46,801	31,747	1,591	80,140
Jan'y, '55	32,084	18,337	1,591	52,013
February	36,317	22,000	1,591	59,908
March	56,589	33,649	1,591	91,830
April	70,777	45,745	1,591	118,114
May	78,171	48,719	1,591	128,482
June	73,653	51,536	1,591	126,780
Total	$750,600	473,205	19,100	1,242,906
1855.				
July	$54,834	43,058	1,851	99,743
August	51,935	49,507	1,766	103,208
September	63,957	76,033	1,766	141,757
October	88,954	89,309	1,766	180,030
November	66,303	62,220	1,766	130,290
December	49,816	44,300	1,766	95,882
Jan'y, '56	38,130	34,134	1,766	74,032
February	38,183	30,035	1,766	69,984
March	57,575	37,772	1,766	97,114
April	75,800	55,677	1,766	133,244
May	82,951	63,885	1,766	148,604
June	74,284	66,366	1,766	142,416
Total	$742,622	652,296	21,284	1,416,404

The following is a copy of the balance sheet of the Chicago and Rock Island railroad company July 1, 1856.

CREDIT BALANCES.

Capital stock	$4,029,000
Mortgage bonds	1,971,000
	$6,000,000
Unpaid dividends	5,900
Unpaid interest warrants	455
Northern Indiana R. R.	5,158
Bills payable [since paid]	102,572
Profit and loss	497,280
Total	$6,611,365

DEBIT BALANCES.

Cost of road and equipment	$6,048,235
Railroad bridge company	66,459
Illinois and Mississippi telegraph company	13,785
General agency of the company [since settled]	44,982
Chicago and Rock Island R. R. stock	142,800
Sundry small balances	873
Stock of fuel and materials on hand	168,799
Balance in Cashier's hands at Chicago	57,660
Cash in bank	67,772
Total	$6,611,365

At the time this company commenced operating their road, this was the only line to the Mississippi river from the city of Chicago; since that time six other roads have been built, and have been for some time in full operation, having their termini at Chicago and on the Mississippi river, competing more or less for the same trade. Notwithstanding the completion of these six roads, the business of the Chicago and Rock Island road has regularly increased, and although the resources of the country through which it passes are even now but partially developed, the earnings of the road have reached an amount which insures satisfactory returns to the stockholders for their investment.

The Board have carried out the instructions of the stockholders as authorized at the annual meeting in December, 1854, and have erected a Grain House in the city of Chicago, at a cost of $125,000, capable of containing over 700,000 bushels of grain. This is a larger and more expensive building than was contemplated in the report of the engineer, made at that time, but the experience of the spring of 1855 proved, that if built upon the original plan, it would be inadequate for the increasing business of the company, and your Board therefore deemed it advisable to change the plan and construct such a building as their necessities demanded. There has also been built a double track from Chicago to the Junction, a large amount of side track, station buildings and warehouses at different places on the road, and additional equipment has also been purchased, all of which were authorized at the meeting referred to. To meet the expense of these large improvements, they have been compelled to use a portion of the surplus earnings of the road, and by doing so, have been enabled not only to keep the capital stock and bonds within the limits authorized, viz: $6,000,000, but to hold $142,000 of their own stock, in lieu of the earnings thus appropriated, as will be seen by the balance sheet accompanying this report.

The Board take great pleasure in stating that the business of the road is steadily and rapidly increasing, and to meet such increase, they have resolved to purchase 250 additional freight cars, and 10 locomotives, all of which have been contracted for, deliverable in the months of September and October next, and also to extend their side tracks as rapidly as they can, without incurring a floating debt.

The equipment of the Company consists of 41 first-class locomotives, 33 passenger cars, 8 second-class do., 4 mail and express do., 9 baggage do., 418 box do., 199 platform do., 41 hand do., and 10 gravel do.

The railroad bridge across the Mississippi was completed in April last. Fifteen days after the trains commenced crossing, one span of 250 feet was destroyed by the burning of a steamer. This bridge has since been repaired, and trains are now crossing regularly. This bridge is under the joint control of the Chicago and Rock Island and the Mississippi and Missouri Companies, and has been constructed by the Issue of bonds guaranteed by these two companies, and further secured by a deed of trust executed by the bridge company to A. C. Flagg, Esq. It is proposed to establish a sinking fund from the income of the bridge, which will be sufficient to return the bonds at maturity.

The Mississippi and Missouri Railroad is now completed, and in operation to Muscatine and Iowa City, in the State of Iowa, 66 miles; and about 20 miles more will be finished this fall, and is now doing a much larger business than was done over the same number of miles of the Chicago and Rock Island road when it was first opened. The receipts during the months of April, May and June, notwithstanding the road was but partially completed and equipped, were over $1,000 per day.

The earnings of the Peoria and Bureau Valley Branch are equal to the anticipations of the Directors, and we need only more facilities for doing the business offering from this road to largely increase our receipts from this source.

The expense of operating the road and keeping its road-bed, equipment, machinery and buildings in repair, for the period embraced in this report, was $1,326,995 20, or a trifle less than 50 per cent. of its gross earnings for the same period.

It has been the policy of the Directors to charge to operating and repair account, every expense incurred in operating and maintaining the road and its appurtenances, and nothing has been charged to construction account, which has not been actually expended for land, fencing, new buildings and shops erected, grading and additional equipment obtained since the 10th July, 1854, and it is the intention of the Board of Direction to adhere strictly to this policy, they deeming the true interest of the shareholders will be promoted thereby.

The actual cost of the road and equipment to 1st July, 1856, was $6,048,235 13, or a sum greater than the capital stock and bonded debt of $48,235 13, and this cost will be still farther increased by the new equipment ordered, and by new station houses and freight depots now being erected on the line of the road.

The balance sheet shows to the credit of profit and loss account the sum of		$497,279.07
From this sum should be deducted the accrued interest on the bonds not due until 10th July, five months and 20 days,	$66,830.56	
And the amount of accrued rent of the Peoria and Bureau Valley R. R. not payable until August 1st, 5 months,	52,083.34	
		118,913.90
Showing a credit balance of		$378,365.17

or within a fraction of 9¼ per cent on the capital stock.

This sum being a surplus of earnings above the operating expenses, interest paid and accrued, dividends and rent of Peoria and Bureau Valley Railroad to July 1, 1856.

The earnings of July and August, 1856, compared with the corresponding months of 1855, are as follows:

Earnings of July, 1856		$157,678.57
" August "		176,774.69
		$334,453.26
Earnings of July, 1855	$99,742.68	
" August "	103,207.91	
		202,950.59
Increase in two months,		$131,502.67

Equal to nearly 65 per cent.

The Directors estimate the earnings for the year ending 1st July, 1857, to be $1,650,000.

The following are the names of the Directors:

HENRY FARNHAM, *President.*
AZARIAH C. FLAGG, *Treasurer.*
FRANCIS H. TOWS, *Secretary.*
JOHN F. TRACY, *Superintendent.*
JAMES. L. ELWOOD, *Cashier*, Chicago.

Directors.—Azariah C. Flagg, Thomas C. Durant, Irad Hawley, Francis H. Tows, New York; Charles W. Durant, Albany, N. Y.; William Walcott, Utica, N. Y.; Henry Farnham, Norman B. Judd, Isaac Cook, John F. Tracy, Chicago, Ill.;

Lemuel Andrews, Rock Island, Ill.; Theron D. Brewster, Peru, Ill.; Ebenezer Cook, Davenport, Iowa.

Executive Committee.—Thos. C. Durant, Henry Farnham, Wm. Walcott, Charles W. Durant, Azariah C. Flagg.

Honduras Railroad.

We copy the following from the *Liverpool Post* in reference to the above project which is attracting great attention both in this country and in Europe.

On the fourth of last month we gave all the particulars of the proposed "Honduras Interoceanic Railway," and hinted at the time that the popular Member of South Lancashire took a deep interest in the project. We might have stated it as a fact, for, at the meeting of the Chamber of Commerce, last week, Mr. Brown announced his concern in the scheme; and the extent of his interest may be inferred from the report of Captain Robert Fitzroy, R. N., made to Lord Clarendon. We subjoin the whole of this important report; but the following facts will enable the reader to appreciate more fully the details. The distance between New York and San Francisco, via Panama, is 5,224 miles; via Honduras, 4,121 miles; saving of distance of Honduras line over that of Panama, 1,103 miles. The distance from Liverpool to San Francisco, via Panama, touching at Kingston (Jamaica), is 7,712 miles; via Honduras, 6,881 miles; saving of Honduras over Panama, 831 miles. The distance from Liverpool to Sydney, via Honduras, has been calculated with care, and found to be 11,820 miles. At an average rate of steaming of twelve miles per hour, and allowing three days for coaling and transhipment, the voyage could be performed in exactly 48 days and 12 hours.

TABLE OF DISTANCES.	Miles.	From Liverpool.
Liverpool to Fayal	1,320	
Fayal to St. Thomas	1,860	
St. Thomas to Puerto Caballos	1,320	
Puerto Caballos to Bay of Fonseca	160	4,661
Bay of Fonseca to San Francisco	2,220	6,881
Bay of Fonseca to Sandwich Islands	3,960	8,621
Sandwich Islands to Canton	4,920	13,541
Sandwich Islands to Shanghai	4,500	13,121
Sandwich Islands to Jeddo	2,760	11,381
Bay of Fonseca to Melbourne	7,680	12,341
Bay of Fonseca to Sydney	7,159	11,820
Bay of Fonseca to Auckland	6,004	10,665
Bay of Fonseca to Callao	2,359	7,020
Bay of Fonseca to Valparaiso	3,670	8,331
		From New York.
New York to Bay of Fonseca by railroad and steamer	1,901	
Bay of Fonseca to San Francisco	2,220	4,121
Do. to Sandwich Islands	3,960	5,861
Sandwich Islands to Jeddo	2,760	8,621
Do. to Shanghai	4,500	10,361
Do. to Canton	4,920	10,781
Bay of Fonseca to Auckland	6,004	7,905
Do. to Sydney	7,159	9,060
Do. to Callao	2,359	4,260
Do. to Valparaiso	3,670	5,571

The time between New York and San Francisco, via Honduras, is estimated at thirteen days four hours. This calculation is based on an assumption of twenty miles per hour by rail and and twelve miles per hour by steamer. Mr. Steers, the well known architect of the yacht America, of the great steam frigate Niagara, and the Collins packet Adriatic, will contract to build steamers guaranteed to accomplish an average of sixteen miles in the Atlantic and twenty in the Pacific. Assuming this speed for steamers, and thirty miles for railway express, the distance between New York and San Francisco may be accomplished in eight days sixteen hours.

The following is Capt. Fitzroy's report:

MEMORANDA

Respecting a Project for the Construction of a Railroad through the State of Honduras, submitted to the Earl of Clarendon by the Hon. William Brown, M. P., from Liverpool.

The general character of the various lines hitherto suggested for railroads or canals being now so familiarly known, it appears to be unnecessary to do more than recapitalate them briefly, before adverting to the peculiarities of that route along which it is proposed to construct a railway across the State of Honduras.

For railroads, five distinct lines have been proposed; one of which, at Panama, has been executed.

I. *The Mexican Line.*—Between the Gulf of Mexico and Tehuantepec, wanting good ports, and not in the line of general intercourse between the two oceans.

II. *The Nicaragua Line.*—Equally deficient in harborage, and otherwise objectionable.

III. *The Chiriqui and Dulce Line.*—Between good ports and of promising character, but which has not yet been surveyed accurately.

IV. *The Panama Route.*—This is the shortest, crosses the lowest land, and is well situated; but has inferior harbor accommodation.

V. *The Darien Line.*—Between good ports, distant less than forty miles from each other; but crossing a ridge about 900 feet above the sea.

Canalisation is urged between the great river Atrato and the Pacific, but such a work as this must occupy a lengthened time.

Each of these projects has had, and has still, its earnest advocates; and one of the plans, the Panama Railroad, has been executed to such purpose, that the shareholders have lately been receiving more than 10 per cent. annually (15 per cent. has been stated) on their subscribed capital. Detailed information is given in the annexed pamphlets, which could hardly be compressed and embodied in this paper, conveniently.

The enterprise to which Mr. W. Brown (M. P. for Lancashire) has now drawn attention, viz: a railroad across Honduras, is one which has striking and obvious advantages, although scarcely noticed until lately.

Elaborate and complete surveys of the whole line, as well as of the excellent ports (between which the road is proposed), have been admirably executed. All the conditions are known, and appear to be favorable, excepting two, which are matters for calculation, viz: the consequences of the great elevation of the summit level, which is 2,200 feet, and the 160 miles in length of the line.

Before adducing instances of other lines surmounting high elevations successfully, references to the position of Honduras, geographically and politically, may be expedient, as general considerations affecting all others.

Measuring on a globe, by a thread, it appears that the Honduras line is as favorably situated for communication with Europe, America, (North and South), China, India, and Australasia, as any part of the great Isthmus, while the excellence of both ports, and their easy as well as safe approach, render its situation unimpeachable.

Political considerations are less complicated and easier to deal with than in any other parts of Central America. The whole line, and both ports, are under the sole jurisdiction of one State, from which a charter for 70 years has been obtained, on terms most favorable to the undertaking.

Looking especially to European communication, it may be observed, that a main or trunk line of steamers, calling at Jamaica, in traversing the West India Archipelago, would find a suitable terminus at Port Caballos, in Honduras Bay, where the north end of the railway will be; and that Fonseca Gulf, at the other end, is in the region of steady winds, and well situated for a direct track across the Pacific ocean, either to China or Australasia.

The climate, productions and population of Honduras are more in favor of such a work as a railway from sea to sea, than those of any other part of the great Isthmus, without exception; but, as the length and elevation are great, these difficulties should be well considered.

1. As to length: This is a question of 160 miles against 40 (other things being equal, which, however, they are not), involving first cost, constant expense, and comparative local advantages.

The continual outlay on the Panama Railway, consequent on the nature of the locality, and many pile-supported structures, is great; while, in Honduras, there will be comparative durability of works. Fuel must be carried to Panama from distant ports, but it abounds near Fonseca Gulf. Rain prevails in the eastern part of the Isthmus of Panama, much more than it does in Honduras, where the climate is such that European trees and fruit thrive on the higher grounds.

2. With regard to the elevation, which seems at first sight rather deterring, it should be borne in mind that the greatest incline or gradient proposed is one in 88, and that only for a short interval, in a country where ice or snow are unknown; the general gradients being remarkably easy. Also, that as the country lies favorably, the line running along valleys, near rivers, and without crossings of any consequence, it is likely to be an economical line in this respect. All requisite materials, as well as native labor, are on the spot; and the Honduras woodcutters are well known.

The Honduras Railway Company is incorporated under the new Joint Stock Companies' Act of Great Britain, limiting the liability of the shareholders. Its capital is £2,000,000 sterling, or $10,000,000, in 100,000 shares of $100 each—in pounds and dollars, and transferable alike in New York and London. Wm. Brown, M. P. (Brown, Shipley & Co., Liverpool), is Chairman of the British Board; J. L Ricardo, M. P., is Deputy Chairman. The President of the Liverpool Chamber of Commerce, Chas. Holland Esq., is a Director; also Thos. Sellars, Esq., President of the American Chamber of Commerce of Liverpool, and member of the well known Anglo-American firm of Dennistoun, Cross & Co.; also, Raikes Currie, Esq., M. P., banker; Wm. Dent, late East India Director; Abraham Darby, President of the Great Ebbervale Iron Company—a millionaire; J. E. Ewart, Esq., M. P. from Liverpool; Capt. Robert Fitzroy, R. N.; Mr. Heywood, banker; R. W. Crawford, East India merchant, and several other first-class London merchants and bankers. The American direction numbers Paul Spofford (S., T. & Co.), Shepherd Knapp, Geo. W. Beebee, Daniel Embury, P. H. Holt, C. A. Macy. C. F. Moulton, &c. The prospectus will be out by Sept. 15th, in London, and the books for subscription opened at J. Hutchinson's, President of the London Stock Exchange, and Foster & Braithwaite, ore brokers; Heywood, Kimards & Co., bankers in London; Brown Bros. & Co., in New York; Rothshilds Freres, in Paris and Francfort.

Causes of Boiler Explosion.

Prof. Hunt, in a lecture lately delivered before the Polytechnic Society, called attention to some remarkable points in connection with the action of heat on water that contains no air, stating that arising from this circumstance, as well as from the spheroidical condition of the steam generated, we have two very active and predisposing causes of boiler explosions. Water is frozen by the loss of heat necessary to maintain its fluid state; ice formed during agitation contains no air bubbles, but under ordinary circumstances, the upper portion is filled with air bubbles in straight lines. It is a remarkable fact that water, in the process of congelation, has the power of rejecting everything; consequently all the air the water contains is expressed. If the access of air to water which contains no air be prevented, it will not boil at 212 degrees. In this state the temperature will increase to 230,

240, or even 250 degrees, and advancing to between 270 and 280 degrees. About these points the whole mass will explode with the violence of gunpowder. The condition of water is said to be not unfrequently formed in steam boilers, producing explosion—an important scientific fact.

New Orleans, Jackson and Great Northern Railroad.

The Jackson *Mississippian*, of Friday last remarks:

It is truly gratifying to the friends of this great enterprise to learn that it is rapidly progressing, under the management of those who are now conducting its affairs. We learn from a late Holmesville Southron that the cars are now running to Magnolia, bringing the "iron horse" ten miles nearer to us than Osyka, which for the last twelve months has been its stopping place. We also learn from Mr. Parker, one of the energetic contractors, that the road has been graded to Brookhaven, and is ready for iron to that point. Dr. Grant, one of the contractors, is now busily engaged in laying down the iron. Brookhaven is now thirty miles north of Osyka. Messrs. Cook, Buckingham and Bradford; Latimore McKie & Co.; Mr. Rains and Mr. C. A. Parker, contractors, are also working with large forces north of Brookhaven, at different points, and are hurrying it forward with all possible dispatch. We may safely predict from present indications that the road will be completed to Jackson by the 1st day of January, 1858.

Railroad Earnings.

The earnings of the Terre Haute and Alton road for August were $70,000, and for September they promise to be 80,000.

The New York Central Railroad receipts for August were about $716,000.

We give below the earnings of the Panama Railroad for the current year to date, compared with those for 1855:

	1855.	1856.
January	$43,942 22	$116,421 47
February	51,880 01	107,132 56
March	99,862 73	127,302 06
April	78,651 01	129,210 60
May	128,163 12	157,614 04
June	87,151 99	99,072 76
July	53,180 84	109,971 84
Total	$542,832 92	$846,724 83
Increase		$303,891 91

The receipts of the Erie railroad thus far this year, compared with the same months of the previous year, have been:

	1854.	1855.
October	$539,018	$598,340
November	486,792	557,587
December	454,971	582,062
	1855.	1856.
January	$427,829	402,988
February	340,751	367,915
March	507,090	460,358
April	506,597	628,070
May	475,127	587,793
June	396,837	479,776
July	372,077	481,551
August	434,779	527,451
Total	$4,941,868	$5,683,891
Increase in 11 months		$742,023

The following is a statement of receipts on the Virginia and Tennessee railroad, for the month of August, 1856:—

Passenger fare	$19,650 66
Freight	16,609 10
United States Mail	1,534 87
Express freight	229 39
Total	$38,024 02

Being an increase of $9,228 17, or about 32 per cent. on the receipts of August, 1855.

Dinsmore's New Railway Guide for September.

The second edition of this useful publication has been on our table some days, but we have delayed speaking of it as it deserves, for want of time to examine it. It contains time tables of all the leading routes in the United States and Canadas—with all the through and way fares and distances; together with the time of starting of all the inland and ocean steamers—with an index to each part, so that the "anxious enquirer" finds no difficulty in learning the way to the "desired h[e]aven." It also contains a gazetteer of the principal towns on the various routes, showing their situation and population, together with a map of all the roads sufficiently large to assist travelers in tracing their routes; with some dozen or more, *in minature*, of the principal cities and vicinity—exhibiting all the roads leading from them. The whole combined furnishes information to the traveler worth several times its price, while it reflects much credit upon its talented editor RICHARD S. FISHER, Esq., the well known statist, and the enterprise of the publishers DINSMORE & CO., whose experience guarantees the reliability of the matter contained in it.

Brooklyn City Railroad Company and the 9th Ward Inhabitants.

It seems to us that the Company are acting the penny-wise and pound-foolish game in not laying down their rails as agreed. The traffic may not be sufficient to pay them now, but no doubt very soon will be; as nothing but this is keeping this part of the city back, the rails must go first and people will follow; they will not go and wait for the rails.

This, however, is not the question. The Company agreed to carry the tracks to the city line, and they ought to keep faith with the people who gave them such a munificent grant. The inhabitants of the Ninth Ward have held a meeting to consider this subject and resolved to use all means in their power to compel the Company to fullfil the requirements of their charter. *

Ottawa Ship Canal.

The Staff of Engineers with the assistants and axemen, &c., for the Survey of the Ottawa Ship Canal and the North Shore Railway from Pembroke to Lake Huron, numbering forty in all, arrived here on the 17th ult., and have been making preparations to commence this important work early next week. Jas. Stewart, Esq., Chief of the Staff under superintendence of W. Shanley, Esq., has opened his office and permanently fixed the head quarters of the survey in this town, four or five draughtsmen remaining in the office. G. H. Perry, Esq., one of the most able and energetic civil engineers in the Province, will commence on Monday the survey of the river downwards, from Pembroke to the Chats, triangulating the whole stream as he proceeds. To H. Munro Mackenzie, Esq., is allotted that section of the line of operations between the mouth of the Matawan and Lake Huron, the preliminary survey on French river being undertaken by Robert Shanley, Esq., a most talented and accomplished gentlemen. J D. Slater, Fsq., a civil engineer who laid out the first railroad in Upper Canada, takes the superintendence of the railway survey, commencing at the contemplated terminus of the Brockville and Ottawa Railway upwards. Everything looks propitious, and this governmental undertaking augurs well for its final completion, as everything that professional skill and scientific attainment can do will be effected. Every unprejudiced mind must now be convinced that the Government is in earnest with respect to the Ottawa country, and grumblers may whine away their doleful notes, and disappointed politicians may storm as much as they please the work must go on, and the railway or the canal, if not both will be completed. Pembroke is now full of activity and bustle, and the interest taken by the government in this matter is guaranteed by the fact that the sons and nephews of some of its most prominent members compose part of the expedition. We may mention the names of Tache, Lemieux, Parent, Pemberton, Lindsay, &c., &c. The office of one department of the Board of Works now open here we hope to see stationary until the canal and railway is completed and open to commercial enterprise and to the public at large.—*Pembroke Observer.*

Central Ohio Railroad.

This road, by which the Baltimore and Ohio railroad is virtually extended westwardly into the heart of the State of Ohio, and there connects with the gigantic net-work of kindred lines covering that vast region, continues to exhibit a steadily growing development of its immense busines resources. Under the judicious and energetic management of those who now direct its operations, its traffic and travel are prosecuted with an efficiency that must command constant accessions, and secure to the company, at an early day, a full and permanent release from financial embarrassment. We have before us the weekly statement of the gross earnings of the road for the six days ending on the 6th of the present month, which exhibits the highly gratifying result of an average receipt of very nearly *three thousand dollars per day*. The items are subjoined:

Passengers	$7,451.92
Express	164.89
Mail service	540.54
Freight	9,398.42
	$17,555.77

—*Balt. American.*

Springfield Mt. Vernon and Pittsburg R. R.

This project is not relinquished, and there is now hope of its final completion. A writer in the Mt. Vernon *Banner*, has been making inquiries at head-quarters, and has obtained the facts contained in the tabular statement below:

Arrangements are about to be entered into with the Pittsburg, Fort Wayne and Chicago Railroad Co., by which that Company takes of Preferred Stock of the S., Mt. V. and P. road	$75,000
A like arrangement is to be entered into with the Cincinnati, Hamilton and Dayton Railroad Co.	75,000
In addition to the above, an arrangement has also been made, by which contractors agree to take $200,000 of second mortgage bonds, eastern division, S., Mt. V. and P. road, in payment on construction of work yet to be done, at 75 cents on the dollar	150,000
Unpaid subscriptions in Knox county available and not collected, at least	50,000
Unpaid subscriptions of O. and P. Railroad	23,000
	$373,000

The above amount of cash means which the officers of the company are confident of having the command of in a very short time, is all to be applied to the construction of the road east of Delaware. Besides this, there will remain on hand $158,000 of the Company's second mortgage bonds on the Eastern Division of their road. If those can be disposed of, on terms as favorable as has been obtained for those already sold, the company will have funds amply sufficient to complete the road, ready for the iron, in the best manner, and without any floating debt. The iron is expected to be purchased with the company's first mortgage bonds, Eastern Division, which are reserved for that purpose.—*Pittsburg Gazette.*

SOUTHERN RAILROAD.

State of Mississippi, City of Vicksburg,
OFFICE OF THE SOUTHERN R. R. CO.

THE SOUTHERN RAILROAD COMPANY invite proposals from contractors for the clearing, graduation, masonry, trestling and bridging, necessary to the complete preparation for the superstructure of the road-way of the eastern division of their road.

Also, for furnishing the cross-ties, and for the track-laying, with any incidental work necessary.

And for all other work, stations, platforms, depots, &c., required in the thorough completion of the road for effective operation.

The graduation amounts to 770,000 cubic yards of excavation, and 665,000 cubic yards of embankment.

The trestling to 4,000 feet.

The bridging to 600 feet.

The masonry for culverts amounts to 10,000 perch.

Mhe cross-ties to 180,000

Proposals, sealed, endorsed, and directed to the undersigned, will be received until the FIRST DAY OF NOVEMBER NEXT, and will be, at the option of bidders, either for—

I. The *entire work of construction*, completing the road ready for the iron;

II. The work of construction, exclusive of cross-ties and track-laying;

III. For each item of work, entire and separate;

IV. For the grading of either, or a specified number of sections, of one mile each;

V. For the cross-ties to be furnished, the number specified;

VI. For the entire construction, ready for the iron, of either of the three divisions hereinafter named of said road:

The eastern division, connecting with the completed road at or near the town of Brandon, extends to the Mobile and Ohio road, 82¼ miles, which will be divided into three subdivisions; the first of 21 miles, the second of 28 miles, the third of 33½ miles.

In each form of proposal, the bidder will state his item prices, and for the graduation will make his bid at so much per cubic yard of excavation and embankment, and the additional difference for "excess" of either; or for so much per cubic yard upon the largest item, and the difference for "excess."

The parties making proposals are desired to make them in four forms: 1. For the whole amount payable monthly in cash, as the work progresses, reserving twenty per cent. for final settlement. 2. One-half in cash, payable in the same way, and one-half in the stock of the company. 3. One-third in cash, payable in the same way, one third in the stock of the company, and one-third in the bonds of the company, payable in ten years, with interest at six per cent., payable annually. 4. Payable entirely in the stock of the road.

The proposals, to be considered, must be accompanied by satisfactory references or credentials, and the company reserve the right of accepting any or declining all.

Maps profiles and specifications may be seen at this office; and any further information will be furnished upon application to the unde signed.

The Southern Railroad commences at Jackson, the capital of the State, and is finished as far as the town of Brandon; and is in good running order and well equipped, to that point. It extends from Brandon in a line almost directly east eighty-two and a-half miles, to the intersection of the Mobile and Ohio Railroad, a few miles below the town of Marion, in Lauderdale county; and passes through the counties of Rankin, Scott and Newton. The line is over a high rolling country, well watered and timbered, and in point of healthfulness, economical living, &c., equal to the most favored portions of the Carolinas and Georgia. The grading, except for the first twenty miles, is generally light; and upon the most of the sections the excavation and embankment alternate favorably; the exceptions being in the two heaviest cuts. The material is of a character easily moved; the growth of the country affords abundance of timber suitable for bridging and cross-ties; and it is believed that no work offers, in facilities for construction, greater inducements to contractors, especially those using negro labor.

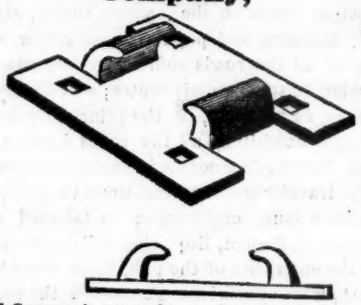
This company is entirely out of debt, and has due to it by reliable stockholders, about $330,000, which will doubtless be paid as the Board of Managers may call it in. It is also a recipient under the recent grant of lands made by Congress, if they can be had along the line, which is believed to be the case, of nearly 400,000 acres of land.

The road connects with and is an extension of the Vicksburg and Jackson Railroad, completed and in full operation to the Mississippi river at Vicksburg; opposite which city, in Louisiana, commences the Vicksburg, Shreveport and Texas Railroad, now under contract for its whole distance and in rapid progress of construction. It intersects the New Orleans and Jackson Great Northern Railway at Jackson; and through that at Canton, connects with the Mississippi Central Railway, the iron of which is now being laid to Holly Springs. It intersects with the Mobile and Ohio Railroad, as already stated, near Marion, and at its point of intersection meets with the North-eastern and South-western Railroad in Alabama, and through that unites with the roads in Virginia, Tennessee and North Carolina. It is also an indispensable link in the line of Railways that are to unite Charleston and Savannah, through Montgomery, Vicksburg, Shreveport and El Paso, with the Pacific Ocean, running its entire length on the same parallel of latitude with these places. It is thus obvious that this line of work is one of the most important unfinished enterprises in the country. It is thoroughly National in its character; for it unites Maine and New Orleans, and the Atlantic and the Mississippi, by indissoluble bonds. But whilst thus National, it appeals especially for aid to southern men and southern enterprise, for when completed, with the intermediate gap in Alabama, it will, with its connections, now built and being built, run right through the heart of those great southern cotton growing States, Louisiana, Mississippi, Alabama, Georgia and South Carolina, and unites the great inland sea with the broad ocean.

These facts are stated to call attention to this line of road and to induce capitalists and contractors to embark liberally in its construction. The fifteen miles of completed Railroad with its equipments and sixty valuable slaves, many of them mechanics, is a bonus from the State of Mississippi; the public land has been donated by Congress; and it is, perhaps, not greatly over estimating the present property of the road to put it at or near one million of dollars, in which sum future stockholders who may become such by direct subscription of money or work will be at once equally interested. It will thus be seen that this road presents peculiar inducements to men of means to engage in its construction.

WM. C. SMEDES,
6t88 *President of the Southern R. R.*

NEW YORK
Wrought Iron Railroad Chair Company,



THIS Company is prepared to receive orders for the manufacture of *Wrought Iron Railroad Chairs* of the best material, on a new and superior model, and by improved patented machinery.

The thickness of the Lips of the Chair increases through the bend, where the greatest strength is required, and diminishes towards the edge;—so that a less weight of metal may be used and a strength required equal, if not superior, to that of a heavier Chair of uniform thickness.

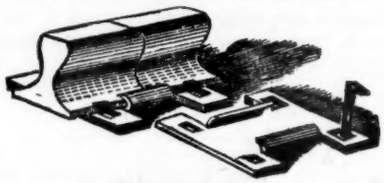
Our arrangements are now complete for executing work promptly, and all orders from responsible parties will be filled on short notice.

These chairs are used by the following companies:

Virginia Central R. R. Co.,
New Orleans Opelousas and Great Western R. R. Co.,
Black River and Utica R. R. Co.,
Cheraw and Darlington R. R. Co.,
Washington and Saratoga R. R. Co.
Mississippi Central R. R. Co.,
Long Island R. R. Co.,
Illinois Central R. R. Co., &c., &c.

Address JACOB ROWE, *President*,
8 Broadway corner Beaver st., opposite the Bowling Green
NEW YORK.

RAILROAD SPIKES.



WROUGHT IRON
Chairs and Fastenings.

THE CALVERT IRON & NAIL WORKS continue to manufacture with increased facilities, HOOK & FLAT HEAD RAILROAD SPIKES, and WROUGHT CHAIRS and FASTENINGS of all patterns, also CUT NAILS, BOILER RIVETS, BOLTS, SHIP and BOAT SPIKES.

Long experience in the manufacture of these goods enables them to produce an article of superior quality and finish. They are in use upon a large number of roads in the country and are highly approved.

Orders filled promptly, and at the lowest prices.
J. HOPKINSON SMITH,
Baltimore, Md.
☞ Please direct the name in full. 16tf

Brooklyn Water Works.
NOTICE TO MACHINISTS.

SEALED PROPOSALS will be received at the office of the undersigned until the 1st of October at noon, for the construction of two Pumping Engines, Cornish or equal to Cornish, for the Brooklyn Water Works, of capacity to raise Ten Millions (N. Y.) gallons daily each, 170 feet high, with three boilers each, to be built and erected complete on the stone foundations prepared for them, and to be of first class workmanship.

Drawings in detail accurately defining the style and character of engines and appurtenances to be submitted by the proposers, with description.

Specifications and further information may be had, at the office of the Chief Engineer, J. P. KIRKWOOD Esq., No. 4 Halsey's Buildings, Brooklyn, or of the undersigned.

The right is reserved to reject any of the proposals made.
H. S. WELLES & CO.,
8t32 No. 4 WALL ST., New York.

TO BRIDGE BUILDERS.

THE La Crosse and Milwaukee Railroad Company invites PROPOSALS with plans and specifications, until Wednesday noon, October 15th next, for building a bridge over the Wisconsin river on the line of their road. This road extends in a north-westerly direction, across the State, from Milwaukee on Lake Michigan to La Crosse on the Mississippi river crossing the Wisconsin river at Kilbourn City in Columbia county. The river at this point runs in a rocky bed, the banks of which are vertical rock bluffs to the height of 80 feet above the water, at which point they are at the grade line of the road, and about 300 feet apart. The water is about 20 feet deep, having in the middle of the stream a few feet of sand overlaying the rock bottom. It is proposed to erect two piers about 50 feet from either bank, at which points the water is about 5 feet deep at low water, with a clean rock bottom, giving a span in the middle of 200 feet, and two short spans at the ends, resting upon the natural locks as abutments. It is desirable so to construct the bridge as to give a waggon way below the railroad track, passing the latter over the higher section of the bridge. The company reserve the right to award the contract to any parties on any plan furnished; but in case of their giving the contract to any builder on a plan furnished by any other person, they will pay to the person furnishing such plan, the sum of FIVE HUNDRED DOLLARS in full consideration of the plan and specifications so adopted.

BYRON KILBOURN,
Pres't LaC. and Mil. R. R. Co.
MILWAUKEE, August 1st, 1856. 10t32

First Class Locomotive
FOR SALE AT A GREAT BARGAIN.

THE Engine is inside connected—4 ft. 8½ in. gauge—5½ ft. drivers—cylinders 14½ by 20 in. stroke. Independant cut off valve motion. Copper flues and flue sheets Weight 20 tons. The above engine is *nearly new*, in fine condition, and in every respect a FIRST CLASS PASSENGER ENGINE.

For particulars address
ELLIOTT & BOWLES,
118 William st., N. Y.
☞ Also a second hand Engine of smaller capacity, for sale as above. 25tf

To Railroad Companies

A CIVIL and MECHANICAL ENGINEER of first rate theoretical education and practical experience in Railroad Machinery and in the superintendence of railroads, and who is at present engaged as a Mechanical Draughtsman and constructor on a leading road, offers his services to Railroad Companies and others as Master of Repairs. Address J. M., at the office of the AM. RAILROAD JOURNAL.

NEW YORK, *July 21st*, 1856.

Philadelphia, Wilmington & Baltimore Railroad.
UNITED STATES MAIL ROUTE TO THE SOUTH AND WEST.

Trains will leave the Southern and Western Station, corner o Broad and Prime streets, Philadelphia, at 8 30 am. 12 45, 3 and 11 pm.

FARE BY THROUGH TICKETS TO THE SOUTH.

From New York to	Wilmington		$15 50
do	do	Norfolk	8 50
From Philadelphia to	Wilmington		14 00
do	do	Norfolk	6 50
do	do	Petersburg	9 00
do	do	Richmond	8 00

FARE BY THROUGH TICKETS TO THE WEST.

From New York to	Cincinnati		$17 00
do	do	Louisville	19 00
From New York to	Indianapolis		19 00
From Philadelphia to	Cincinnati		16 00
do	do	Louisville	18 00

An extra charge will be made for meals and state rooms on board the boat. GEORGE A. PARKER *Sup't.*

New York and Erie R. R.

On and after *Thursday, August* 7, 1856, and until further notice,

PASSENGER TRAINS
will leave Pier foot of Duane street,

as follows, viz:—

BUFFALO EXPRESS, at 6 a.m., for Buffalo.

DUNKIRK EXPRESS, at 6 a.m. for Dunkirk.

MAIL, at 8¼ a.m. for Dunkirk and Buffalo, and intermediate stations.—Passengers by this train will remain over night at Owego, and proceed the next morning.

CHICAGO EXPRESS, at 1 p. m. for Dunkirk.

ROCKLAND PASSENGER, at 3½ p. m., (from foot of Chambers st.) via Piermont, for Suffern's and intermediate stations.

WAY PASSENGER, at 4 p.m., for Newburgh and Middletown and intermediate stations.

NIGHT EXPRESS, at 5 p.m. for Dunkirk and Buffalo.

EMIGRANT, at 6 p.m., for Dunkirk and Buffalo and intermediate stations.

The above trains run daily, Sundays excepted.

These Express Trains connect at Elmira, with the Elmira, Canandaigua and Niagara Falls Railroad, for Niagara Falls; at Binghamton with the Syracuse and Binghamton Railroad, for Syracuse; at Corning with Buffalo, Corning and New York Railroad, for Rochester; at Great Bend with Delaware, Lackawanna and Western Railroad, for Scranton; at Buffalo and Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Toledo, Detroit, Chicago, etc.,

D. C. McCALLUM, General Sup't.

NOTICE TO RAILROAD COMPANIES.

FIRE INSURANCE.

THE LIVERPOOL AND LONDON
FIRE AND LIFE INSURANCE COMPANY.

37 CASTLE STREET, LIVERPOOL. **Office, 56 Wall Street, New York.** 20 and 21 POULTRY, LONDON.

AUTHORIZED CAPITAL, £2,000,000 or $10,000,000.

PAID-UP CAPITAL AND SURPLUS AND RESERVED FUNDS,

THREE MILLIONS OF DOLLARS.---OVER HALF A MILLION INVESTED IN THIS COUNTRY.

THE LIABILITY OF THE SHAREHOLDERS UNLIMITED.

DIRECTORS IN NEW YORK.

JAMES BROWN, Esq., *Chairman.* FRANCIS COTTENET, Esq., *Deputy Chairman.*

GEORGE BARCLAY, Esq.	ALEXANDER HAMILTON, Jr., Esq.	JOSEPH FOWLER, Esq.
JOSEPH GAILLARD, Jr., Esq.	ED. F. SANDERSON, Esq.	JOHN H. HICKS, Esq.
MORTIMER LIVINGSTON, Esq.	WILLIAM S. WETMORE, Esq.	EUGENE DUTILH, Esq.

ALFRED PELL, Esq. *Resident Secretary.* ALEX. HAMILTON, Jr., Esq., *Counsel of the Board.*

BANKERS--MERCHANTS' BANK--CAMMANN & CO.

DIRECTORS IN NEW ORLEANS.

AMBROSE LANFEAR, Esq., *Chairman.*

FREDERICK RODEWALD, Esq. | JOHN C. B. YUILLE, Esq. | THOMAS BYRNE, Esq.

HENRY V. OGDEN, Esq., *Resident Secretary.*

DIRECTORS IN LIVERPOOL.—THOS. BROCKLEBANK, Esq., *Chairman.* J. C. EWART & F. HAYWOOD, Esqs., *Deputy Chairmen.* THOS. BOOTH, Esq. FRANCIS C. BRAUN, Esq. WILLIAM EARLE, Esq. GEORGE GRANT, Esq. THOMAS HAIGH, Esq. FRANCIS A. HAMILTON, Esq. ROBERT HIGGIN, Esq. GEORGE HOLT, Esq. HUGH HORNBY, Esq. GEORGE H. LAWRENCE, Esq. HAROLD LITTLEDALE, Esq. WILLIAM LOWE, Esq. ALEX. MACGREGOR, Esq. JOHN MARRIOTT, Esq. THOS. SELLAR, Esq. CHAS. SAUNDERS, Esq. JOHN SWAINSON, Esq. JAMES ASPINALL TOBIN, Esq. SWINTON BOULT, Esq., *Sec'y.*

DIRECTORS IN LONDON.—MATHEW FORSTER, Esq., *Chairman.* GEORGE FRED. YOUNG, Esq., *Deputy Chairman.* EDWARD BARNARD, Esq. WILLIAM BROWN, Esq., M. P. SIR WILLIAM P. DE BATHE Bart. WILLIAM EWART Esq., M. P. FREDERICK HARRISON, Esq. DONALD LARNACH, Esq. ROSS DE MANGLES, Esq., M. P. HON. FREDERICK PONSONBY. JOHN RANKING, Esq. EDWARD THOMPSON, Esq. SWINTON BOULT, Esq., *Secretary to the Company.* BENJ. HENDERSON, Esq., *Resident Secretary.*

In addition to their usual business, this Company is prepared to take Fire Risks upon

Railroad Property of all Descriptions,

AS FOLLOWS:

1 They will name a premium at a low rate upon a policy to cover ALL the perishable property of any Railroad Corporation.

NEW YORK, *August 27th*, 1856.

The Railroad Companies desiring insurance, will furnish a schedule of all their perishable property, with its value, and state the amount for which they desire the same insured.

2. This Company will, if preferred, take risks on any specific property of Railroad Companies, in the usual manner, and also upon merchandize in their station houses, or in transitu upon their roads.

Railroad Iron.

1,000 TONS best quality Welsh Rails, "*Erie*" pattern, 58 lbs. per yard, for sale by
VOSE, LIVINGSTON & CO.,
9 South William st.

August 30th, 1856.

Railroad Iron.

500 TONS best quality Welsh Rails, 56 lbs. per yard, for sale by
VOSE, LIVINGSTON & CO.,
9 South William st.

August 30th, 1856.

Railroad Iron.

WE are prepared to contract to deliver Rails at fixed sterling prices, free on board, in English or Welsh ports, and also at prices including freight to New York or Boston.
NAYLOR & CO.,
99 and 101 JOHN ST., N. Y.

Railroad Iron.

700 TONS "Erie" pattern, 57 to 58 lbs. weight per yard, now in port, on ship board. For sale by
THEODORE DEHON,
10 Wall st., near Broadway.

Sept. 4th. 3t37 NEW YORK.

Railroad Iron.

1,000 TONS Railroad Iron, "New York and Erie" pattern, best English make, on the way from England to New Orleans. For sale by
THEODORE DEHON,
10 Wall st., near Broadway,

Sept. 4th. 3t37 NEW YORK.

BUSINESS CARDS.

DRAKE & CARTER,

49 Merchants' Exchange, Wall Street.

THE subscribers have formed a Co-Partnership under the name of DRAKE & CARTER, for the purpose of continuing the business of Buying and Selling *Stocks* and *Bonds*, Loaning Money on Stocks and other Securities, making Collections, &c.

The general partners of the concern will be JAMES M. DRAKE and GALEN A. CARTER. EDWARD B. LITTLE Esq. has contributed Fifty Thousand Dollars as special partner.

D. & C. will occupy the Offices No 49 MERCHANTS' EXCHANGE, (entrance on Wall St.)

JAMES M. DRAKE. GALEN A. CARTER.

WILLIAMS & PAGE,

No. 44 Water Street,

BOSTON, MASS.,

RAILROAD SUPPLYING AGENTS and Commission Merchants, for the Sale of

Iron Rails, Chairs, & Spikes,

ENGINES, CARS, AND MACHINERY,

BUSH & LOBDELL's and other kinds of WHEELS,

BEST HAMMERED FAGOTED AXLES,

LOWMOOR, BOWLING, AMES', AND NASHUA TIRES,

Iron and Steel of all kinds for Railroad Shops,

CAR TRIMMINGS OF EVERY KIND,

and all articles used in Equipment and Repairs of Railroads, Engines, and Cars, *at manufacturer's prices.*

THOS. S. WILLIAMS, Late Sup't Boston & Me R. R.
PHILIP S. PAGE, Late PAGE, ALDEN & CO.

REFERENCES.

JAMES HAYWARD, President Boston and Maine R. R.
Capt. WM. H. SWIFT.
GEO. H. KUHN Esq.
LAWRENCE, STONE & Co.
DANA, FARRAR & HYDE.
J. M. BEEBEE, RICHARDSON & Co.

SEYMOUR, MORTON & CO.

General Railroad Agency,

OFFICE—METROPOLITAN BANK BUILDING
110 *Broadway*, NEW YORK.

ARE prepared to contract for the construction and equipment of railroads in any part of the country; also to furnish corps of Engineers and Contractors; Locomotive Engines and Cars; Railroad Iron, Chairs, Spikes, Switch-irons, &c., &c.

They will also sell or negotiate loans on all kinds of Railroad ecurities.

SEYMOUR, MORTON & Co. have to dispose of at private sale, in amounts to suit persons desirous of investing a large amount of valuable Railroad and other Securities

The members of the firm having had a large experience as Civil Engineers, on some of the most important public works in this country, also tender their services as *Consulting Engineers* to those engaged in the construction of Railroads.

Lord & Wright,

Counsellors at Law, Cincinnati, Ohio. 16t

CINCINNATI STOCK EXCHANGE.

KIRK & CHEEVER,

Stock Brokers and Railroad Agents,

NO. 83 WEST THIRD STREET,

CINCINNATI, OHIO.

Railroads Stocks, Bonds, &c., bought and sold on *commission*. Regular sales at public auction at the MERCHANTS' EXCHANGE.

THIRD STREET STOCK EXCHANGE, CINCINNATI.

J. L. Hickman and Company,

STOCK AND REAL ESTATE BROKERS,
AND
Auctioneers;

No. 36 West Third Street, Masonic Building.

Public Stock Sales daily

AT 11 O'CLOCK A. M.,

AT THE THIRD ST. STOCK EXCHANGE AS ABOVE.

AT PRIVATE SALE.—J. L. H. & Co always have for sale a choice variety of State, County, City and Railroad Bonds and Stocks; also, Bank and Insurance Works, and other Securities. NEGOTIATE LOANS on Stock, Notes, Bills of Exchange, Mortgages, &c. REAL ESTATE SALES, whenever required, at the STOCK EXCHANGE or on the premises.

CINCINNATI.

HEWSON & HOLMES,

AUCTIONEERS AND STOCK BROKERS,

Have regular sales of *Stocks, Bonds, and other Securities*, EVERY
WEDNESDAY AND SATURDAY,
At 1 o'clock at the Merchant's Exchange,
AND IF REQUIRED,

SPECIAL SALES

ON MONDAY, TUESDAY, THURSDAY, AND FRIDAY.

OFFICES—Nos. 83 and 85 Walnut street,
Where they offer at private sale
A GREAT VARIETY OF
State, County, City and Railroad BONDS and STOCKS,
NEGOTIATE
LOANS, NOTES, BILLS OF EXCHANGE,
AND COLLECT
DIVIDENDS, LEGACIES, DEBTS, &c.

REFERENCE—*Ohio Life Insurance & Trust Company Bank*

H. M. SMYTH

COMMISSION MERCHANT

AND

MANUFACTURERS' AGENT,

No. 13 Doane St., BOSTON.

American and Foreign bar, boiler, and pig iron, Tyres, Axles, wrought iron Wheels, boiler, water and gas Tubes, iron and steel Wire, boiler and tank Rivets, Steel, Files, Emery, &c.

H. H. GOODMAN & CO.,

No. 7 WALL ST., NEW YORK,

Dealers in Railway, City, County, and State

BONDS,

RAILS, LOCOMOTIVES, &c.

We have on hand and for sale, of County Bonds—

Hardin County (Ky), 6 per cts.
Carter, Bath, and Montgommery (Ky), 6 per cents.
Davidson C'ty (Tenn.), 6 p.cts
Iowa County (Wis.), 8 per cts.
Mineral Point do. do.

Also a variety of CITY, COUNTY, and RAILWAY SECURITIES in smaller lots.

April 30th, 1856.

ELLERY & GIBBONS,

No. 10 WALL ST.,

BANKERS, DEALERS in DOMESTIC and FOREIGN EXCHANGE, &c., are prepared to negotiate Stocks, Bonds and Financial Securities in general.

REFERENCES.

DREXEL & Co., Bank's, Philad.
SILAS K. EVERETT, of Everett & Brown, N. Y.
WELLS, FARGO & Co. 18t
CORNELIUS W. LAWRENCE, Esq., N. Y.
SAMUEL WILLETS, Pres't of Am. Exchange Bank, N. Y.

Meigs & Greenleaf,

Office No. 23 William st.,

WILL give prompt attention to the purchase and sale of STOCKS, BONDS, &c., strictly on commission. Orders respectfully solicited.

CHAS. A. MEIGS, late Cashier Am. Ex. Bank.
A. W. GREENLEAF, late of No. 2 Wall st.

REFERENCES: American Exchange Bank, Bank of the Republic, Metropolitan Bank, Merchants' Bank. 1y18

KASSON'S

LOCOMOTIVE EXPRESS

FOR THE RECEIPT AND TRANSPORTATION OF

LOCOMOTIVES,

PASSENGER AND BOX CARS

OF ANY GAUGE

To the Western and South-Western States.

PROPRIETORS—KASSON, SON & CO.

WM. M. KASSON, } 90 Exchange st., BUFFALO.
W. MARSH KASSON, } 24 Broadway, NEW YORK.
JAMES G. DUDLEY. }

ARMORY

ROLLING MILLS,

RICHMOND, VA.

R. ARCHER & CO., Proprietors.

R. ARCHER. | R. S. ARCHER.
A. D. TOWNES. | F. T. GLASGOW.

Bar Iron, all sizes, Manufactured from the best Charcoal Pig Metal.
Flats, up to 7 inches.
Rounds and **Squares,** up to 5 inches.
Angle and T Iron.
Car Axles.
Railroad Spikes.
Do. Chairs.
Bridge Bolts, Screwed and Tapped.

☞ Strict attention paid to the quality and finish of our IRON, and all orders promptly filled.

A sample of our machine-made chair may b seen at the Bank of the Republic in New York.

AUGUST, 9, 1856. 3m

ENGINEERS.

Consulting Engineer.

THE undersigned may be consulted upon the location, construction, equipment, and management of railroads in any part of the United States or Canada, and upon the most approved modes of constructing heavy masonry for bridges and the superstructure thereof, whether of wood or iron.

Also upon the best form of rail, and of laying down and maintaining a permanent railway, and in general upon all subjects properly connected with Civil Engineering in its highest branches, and in its most difficult application.

A long and intimate connection with the construction and management of our most important American railroads, and a personal knowledge of those in Europe, should render the undersigned competent to give such advice or make such suggestions, as will enable railroad companies to avoid errors of location, construction and management which are more or less inseparable from all new enterprises in our country.

Engineers of highest character and professional attainment, and competent Superintendents can be recommended or supplied to railroad companies for immediate service on surveys and construction and on management.

ISAAC R. TRIMBLE,
Consulting Engineer,
22tf 118 Park Place, BALTIMORE.

LITHOGRAPHIC AND DRAUGHTING.

Office 131 Fulton st., NEW YORK.

G. WEISSENBORN,

CIVIL AND MECHANICAL ENGINEER,

employs Draughtsmen, and is at all times prepared to execute his work with promptness. He will furnish Architectural and Mechanical Drawings., Linear and Perspective, and if desired they will be lithographed in the HIGHEST STYLE OF THE ART.

W. G. ATKINSON,

CIVIL ENGINEER, SURVEYOR AND DRAFTSMAN

CUMBERLAND, Maryland.

RAILROAD routes located, planned and estimated. Maps and Reports furnished. Researches made for Coal, Iron, Copper, Lead and other Minerals, Metals, &c. Contract work in Tunnels and heavy Graduation measured and reported in detail. Topographical Drawings executed and Lithographs supplied by skilful artists. Mines explored, new Works laid off, and Geological Plans prepared. 8tf

ENGINEERING.

THE undersigned is prepared to furnish Specifications, Estimates and Plans, in general or detail, of Steamships, Steamboats, Propellers, High and Low Pressure Engines, Boilers, Mill Work, etc., etc. Particular attention given to the procuring and superintending of Locomotives, Tenders, Cars, and Railway Machinery of every description.

General Agent Ashcroft's Steam Gauge, Allen & Noyes' Metallic Self-adjusting Conical Packing, Dudgeon's Hydraulic Jack, Sewall's Salinometers, etc., etc., etc.

Acts as Agent for the purchase or sale of, and has always on hand, Steamers, Locomotives, Engines, Boilers, Machinery, etc.

CHAS. W. COPELAND,
Consulting Engineer,
1y17 64 Broadway, N. Y

Augustus Schwaab,

CIVIL ENGINEER, MACON, GEORGIA,

IS prepared to execute work in all the branches of his profession; all kinds of surveys, railroad surveys and locations, plans, estimates, topographical maps and reports for same, surveys of plantations and swamp lands, and designs and estimates for drainage of lands, water works and river improvements. All kinds of contract work measured and reported in detail; plans and specifications furnished for bridges, private and public buildings. He has held responsible situations on the construction of Georgia railroads for the last seven years, and has given his attention to all the details of railroad construction, from the surveys to the erection of the largest depots and workshops, which gives him great facility to furnish railroad companies with reliable and practical designs of any kind they may want, and if required to superintend the execution of them. The best references and recommendations can be produced.

PROFESSIONAL CARDS.

Atkinson, T. C.,
Mining and Civil Engineer, Alexandria, Va.

Barnes, Oliver W.,
Chief Eng. Pittsburg and Connellsville R.R. Co., Pittsburg, Pa.

Edward Boyle,
Chief Engineer, 2d, 3d, and 9th Avenue Railroads New York Office 123 Chambers st.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

James Convers,
Chief Engineer Galveston, Houston & Henderson Railroad, Galveston, Texas.

Alfred W. Craven,
Chief Engineer Croton Aqueduct, New York.

Charles W. Copeland,
Steam Marine and Railway Engineer, 64 Broadway, New York.

Davidson, M. O.,
Civil and Mining Engineer. Office Swanton Coal and Iron Co., 51 *Exchange Place*, BALTIMORE, Md.

C. Floyd-Jones.,
Division Eng'r 3d and 12th Divisions, Illinois Central R. R., *Vandalia, Ill.*

Gay, Edward F.,
State Engineer, Philadelphia, Pa.

Gilbert, Wm. B.,
Syracuse and Binghamton Railroad, Syracuse, N. Y.

Robert B. Gorsuch,
Chief Engineer of the Llanos de Apam R. R., MEXICO.

Gzowski, Mr.,
St. Lawrence and Atlantic Railroad, Toronto, Canada.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

Theodore D. Judah,
Chief Engineer, Sacramento Valley Railroad, Sacramento, Cal. 1y23

S. W. Hill,
Mining Eng'r and Surveyor, Eagle River, Lake Superior.

Ellwood Morris,
Engineer } Dauphin and Susquehanna Railroad. Allentown Railroad.
HARRISBURG, PENNA.

D. Mitchell, Jr.,
Chief Engineer Pittsburgh and Steubenville, and Chartiers Valley Railroads, Pittsburg, Pa.

Mills, John B., Civil Engineer,
Sacketa Harbor and Saratoga R. R., 24 William St., N. Y.

Saml. & G. H. Nott,
Civil Engineers, No. 6 Niles' Building, Change Avenue, Boston.

Osborne, Richard B.,
Civil Engineer, Office 73 South 4th st., Philadelphia.

Prichard, M. B.,
East Tenn. and Georgia Railroad, Knoxville, Tenn.

Theodore W. Robbins,
Civil Engineer and Land Surveyor, Jersey City, N. J.

W. Milnor Roberts,
Chief Engineer Alleghany Valley Railroad, Pittsburgh, Pa.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

J. S. Sewall,
CIVIL ENGINEER,
ST. PAUL MINESOTA.

Charles L. Schlatter,
Chief Engineer Brunswick and Florida Railroad, Brunswick, Georgia.

J. S. Shipman,
Civil Engineer, 63 Trinity Building, 111 Broadway, N. Y.

Straughan, J. R.,
Ohio and Indiana Railroad, Fort Wayne, Ind.

Shanly, Walter,
Chief Eng'r Bytown and Prescott Railway, Prescott, Canada.

Steele, J. Dutton,
Pottstown, Pa.

Charles B. Stuart,
Consulting Engineer, 22 William str., New York.

Edward W. Serrell,
Civil Engineer, 22 William st. New York.

Trautwine, John C.,
Civil Engineer and Architect, Philadelphia.

A. B. Warford,
Chief Engineer, Susquehanna Railroad, Harrisburg, Pa.

INSTRUMENTS.

Richard Patten & Son,
MANUFACTURERS of Mathematical Instruments to the U. S. Government, No. 23 South st., BALTIMORE, Md.

James W. Queen,
264 Chestnut st., PHILA., has for sale Engineers' Levels, Transits, Chains, Tapes, &c. Priced catalogues by mail gratis.

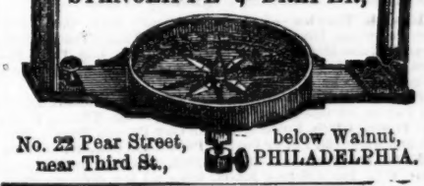
Swiss Drawing Instruments.
SUPERIOR to all others. Catalogues gratis. Sold only by AMSLER & WIRZ, 211 Chestnut st., PHILA., Pa.

Wm. J. Young
HAS removed his Engineering and Surveying Instrument Manufactory to No. 33 North Seventh Street, Philadelphia.

H. SAWYER
(of the late firm of SAWYER & HOBBY),
MANUFACTURER of Transits and Levels, has removed to Union Place, near Warburton Av., Yonkers, N. Y.

Knox & Shain,
Manufacturers of Engineering Instruments, 46½ Walnut st., Philadelphia. (*Two premiums awarded.*)

ENGINEERS' AND SURVEYORS'
INSTRUMENTS, MADE BY
Edmund Draper,
Surviving partner of
STANCLIFFE & DRAPER,



No. 22 Pear Street, near Third St., below Walnut, PHILADELPHIA.

W & L. E. GURLEY,
INSTRUMENT MAKERS,
TROY, N. Y.

INVITE the attention of Engineers and Surveyors to the Instruments made at their establishment.

Possessing facilities unequalled as they believe, by any other manufacturers in the Union, they are enabled to furnish instruments of superior quality, at lower rates than any other makers of established reputation.

We have recently published a work of 80 pages, giving a full description of our instruments, with their adjustments, prices, &c., which we will send by mail free of charge, to all persons contemplating the purchase of instruments.

Address—W. & L. E. GURLEY, TROY, N. Y.

To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of instruments for Field and Office use.

JAS. PRENTICE,
Feb. 1, 1853. No. 1 Chamber street, New York.

Engineers' and Surveying INSTRUMENTS.

F. W. & R. KING,
226 BALTIMORE ST.,
BALTIMORE, MD.,

KEEP on hand, and manufacture to order, a general assortment of instruments for Engineers' and Surveyors' use—including Levels, Transits, Leveling Rods, Compasses, Chains, Drawing Instruments, Scales, Tape Lines, &c.

Repairing and Jobbing promptly attended to.

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES AND LEVELS on a new principle, with Fraunhofers Munich Glasses, Surveyors' Compasses, Barometers, Chains, Drawing Instruments, etc., all of the best quality and workmanship, for sale at unusually low prices by E. & G. W. BLUNT,
New York, Jan'y 1, 1856. No. 179 Water street.

ENGINEERING WORKS.

(Published monthly, forwarded free by post to any part of America for 3s., or £1.16s *per annum.*)

The CIVIL ENGINEER & ARCHITECT'S JOURNAL.
(ESTABLISHED 1837.

THIS JOURNAL contains Notices of all the principal Public Works, Buildings, new Machinery, Patents, and Improvements, Illustrated with numerous Plates and Engravings, from the best examples in England and America—Original Papers and Notes—Reports of the Meetings of the various Scientific Societies—Translations from Foreign Works—Reviews of New Books—List of New Patents, and Report of all important Patent cases in the Courts of Law. Forming a complete Encyclopædia of Modern Engineering, Architecture and Science.

It reckons among its contributors and supporters the most eminent scientific men; and as a work of reference and of current information, has been long received as an authority in the United Kingdom, America, and the continent of Europe.

Members of the Profession, Patentees, and other scientific men, who are desirous of keeping up their acquaintance with the practice and progress of Science and Art, will find that this periodical is particularly directed to give them the required information, whether as a matter of the latest intelligence, or for the purposes of after-reference.

Published at the British and Foreign Patent Office, 19 *Arundel st., Strand*, LONDON.

☞ Subscriptions received at the Office of the American Railway Times, Boston; and at the Office of the AMERICAN RAILROAD JOURNAL, NEW YORK. 26x

LYONS' TABLES.
To Civil Engineers and Contractors.

JUST PUBLISHED—A set of Tables for finding, at a glance, the true cubical content of Excavation and Embankments for all Bases, and for every variety of Ground and Side Slopes. By M. E. LYONS, Associate Engineer, Lebanon Valley R. R.

SHEET NO.				SHEET NO.			
1.	General Table for all Bases and all Slopes.			13.	for Base 18ft. Slop.		1½ to 1
				14.	" 20 "		1½ to 1
2.	For Side Hill Cuts and Fills			15.	" 24 "		¼ to 1
3.	Base 12 ft. Slopes	1½	to 1	16.	" 24 "		1½ to 1
4.	" 14 "	1½	to 1	17.	" 25 "		1½ to 1
5.	" 15 "	¼	to 1	18.	" 26 "		1½ to 1
6.	" 15 "	1	to 1	19.	" 28 "		¼ to 1
7.	" 15 "	1½	to 1	20.	" 30 "		1 to 1
8.	" 16 "	¼	to 1	21.	" 30 "		1¼ to 1
9.	" 16 "	1	to 1	22.	" 30 "		1½ to 1
10.	" 18 "	¼	to 1	23.	" 32 "		1 to 1
11.	" 18 "	½	to 1	24.	" 32 "		1½ to 1
12.	" 18 "	1	to 1				

The Tables are printed in clear, bold type on tinted paper; sheets 25x16 inches. They may be used by candle-light without injuring the eye-sight. Each sheet is complete in itself, and embraces all that is wanted in connection with the Base or Slope designated, whether on level or side hill cross section.

Sold in separate sheets, at 25c. each, or the whole handsomely bound in cloth in one volume for $7.50, by JOSEPH HUFTY, 139 Chestnut st., Phila.; WM. MINIFIE, Baltimore, Md.; ENTWISTLE & SON, Alexandria, Va.; MCCLELLAN & Co., Toronto, C. W.; also

For sale at the office of this paper.

ENGINEER'S FIELD BOOK
By C. S. CROSS, *Civil Engineer.*

THIS work is designed as a pocket companion, and embraces all the necessary tables for prosecuting railroad surveys, in the most compact form.

It is subdivided as follows:

1st. The method of staking out railroad curves and keeping field notes.
2d. Railroad curve tables for expeditiously determining the points at which commences the curving.
3d. Application of the Prismoidal formula in determining the quantities of excavation and embankment of canals and railroads from transverse sections.
4th. Excavation and embankment tables for expeditiously termining the cubic yards from mean area.

It is a plain, clear and most valuable book for practical Railroad Engineers.

For sale at this office. Price $1.

SCIENTIFIC WORKS,

PUBLISHED BY

D. APPLETON & CO.,

346 and 348 BROADWAY, NEW YORK.

Appleton's Dictionary of Mechanics, Machines, Engine Work, and Engineering, 2 vols. 8vo.....$12.00
Bourne's Catechism of the Steam Engine, Bourne's Treatise on the Screw Propeller, 4to.....$9.00
Gillespie's Treatise on Surveying, 8vo.....$2.00
Griffiths on Marine Architecture.....$10.00
Henck's Field Book for Railroad Engineers.....$1.75
Holbyn's Dictionary of Scientific Terms, 12mo.....$1.50
Knapen's Machanic's Assistant.....$1.00
Lyell's Principles of Geology, 1 vol. 8vo.....$2.25
Lyell's Manual of Geology, 1 vol. 8vo.....$1.75
Overman's Metalurgy, 8vo.....$5.00
Templeton's Mechanic's, Millwright, and Engineer's Pocket Companion.....$1.00
Ure's Dictionary of Arts, Manufactures, and Mines, 2 vol's, 8vo. new edition.....$ 5.00

☞ D. APPLETON & Co. have on sale all the important English Engineering Works. tf

MINIFIE'S
MECHANICAL DRAWING BOOK
FOR SELF-INSTRUCTION.

"IS THE BEST WORK ON DRAWING we have ever seen. No young Mechanic, such as MACHINIST, ENGINEER, CABINET MAKER, WHEELWRIGHT or CARPENTER should be without it."—*From the Scientific American.*

THE FIFTH EDITION

Is recently published, containing, in addition to the original work, an ESSAY ON THE THEORY OF COLOR and its Application to Geometrical Drawings, making about thirty pages of new matter, rendering the book much more complete. PRICE THREE DOLLARS, strongly bound in leather. The very favorable commendations with which the former editions were received by the scientific and mechanical press both of the United States and Great Britain may be taken as a sufficient guarantee of its usefulness.

It has been adopted as a text book in many of the Schools and Colleges of the United States, and also in the Government School of Art of Great Britain, and in many of the Mechanics' Institutes of that country.

Its simplicity of style and familiar explanations render it a suitable work for *self-instruction.*

Persons at a distance, by remitting me the retail price as above, can have a copy forwarded per mail pre-paid.

WILLIAM MINIFIE,
114 Baltimore street,
4t37 BALTIMORE, MD.

RAILROAD TRACK,
LOCOMOTIVE & CAR JACKS.

FOR sale by BRIDGES & BROTHER,
64 *Courtlandt st., N. Y.*

Notice to Contractors.
Chicago, Iowa and Nebraska Railroad.

SEALED proposals will be received at the Office of the Company in the City of Clinton, Iowa, until Wednesday, October 15th, inclusive, for the Graduation, Masonry and Bridging at De Witt, and extending to Cedar Rapids in Linn County.

The line will be divided into sections of about one mile in length. The sections may be proposed for separately, or connected as may suit parties proposing. Plans, profiles and specifications of the work will be ready for examination at the Office of said Company in Clinton, on and after the 25th day of September next. The Company reserve the right of accepting such proposals only as they may deem for their interest.

MILO SMITH,
CLINTON, August 18, 1856. *Chief Engineer.*

☞ *Times* and *Journal* please copy and send bill to this office for collection. 4t38

LOCOMOTIVES for SALE.

TWO first class Locomotives, 22 and 25 tons. 4 feet 8½ in. and 4 ft. 10 in. gauge.

For sale by GEO. W. BILLINGS,
1m36 66 BROADWAY, N. Y

FOR SALE

TWO LOCOMOTIVE ENGINES, suitable for gravel or other light trains. The above machines are in good order and sold for want of use. Apply at the office of the CAMDEN AND ATLANTIC R. R. CO., 56 Walnut st., PHILADELPHIA, Penna. 32tf

INTERESTING TO RAILROAD MEN.

A DIAGRAM has recently been published by G. H. HENSHAW, Civ. Engineer, of the practical organization of the New York and Erie Railroad. It shows in detail its entire *physique* in every department of the road. Such information in regard to one of the greatest railroads in the world must be deeply interesting to all connected with the management of such concerns. The impressions are on fine paper 31x45 inches. Price $1 for thick or map paper and $1.75 mounted on rollers. Those on map paper can be sent by mail.

Address JAMES W. HILTON,
Jersey City, N. J.
July 24th, 1856. 3m.

NATHAN LANE & CO.,

No. 69 Wall Street, and 91 Beaver Street, near Pearl,

NEW YORK,

Railroad, Bank, Insurance, and Counting-House

STATIONERS,

PRINTERS, LITHOGRAPHERS,

AND ACCOUNT BOOK MANUFACTURERS,

Respectfully invite attention to the different departments of their business, and trust that from their long experience of over 15 years they can execute all orders in the most satisfactory manner, and on as favorable terms as any house in the city.

Having always on hand a large and extensive assortment of all the various kinds and sizes of **Blank Books,** manufactured in the most substantial manner, and in different styles of binding, of the very best material, they are enabled to supply a single book or complete sets from their own shelves, at short notice.

Blank Books manufactured to any pattern or style,
IN THE BEST MANNER.

RAILROAD COMPANIES

Supplied with all their various BLANKS and BOOKS, after the latest patterns and most approved styles. *Tickets, Freight and Way Bills, and the entire series of Blanks and Requisites.*

Lithographing and Engraving Bonds

FOR RAILROAD AND OTHER COMPANIES,
Certificates of Stock, Checks, Drafts, Notes, Bills of Exchange, Letter Headings, in every variety.

Our Specimens of Bonds, Certificates of Stock, and Checks, attracted special attention at the late Fair in the Crystal Palace, being scarcely distinguishable from Steel Plate Engravings; *combining all the advantages of steel engraving, with comparatively little cost.*

ENGINEERS, ARCHITECTS, and DRAFTSMEN,

Supplied with every article required by the profession.

COAL, IRON, MINING and MANUFACTURING COMPANIES

Fitted out with Books and Stationery, at the lowest rates.

BANKS AND BANKERS

Supplied with every article of BOOKS and STATIONERY requisite for the Counting House, of the very best quality, and *at low prices.*

Checks printed and bound, Drafts, Bills of Exchange, &c., &c.

INSURANCE OFFICES

Furnished with Policies, Policy and Street Registers, Renewal Receipts, Surveys, Notices, and all the blanks and forms pertaining to Insurance.

SEAL ENGRAVING AND STAMP CUTTING

EXECUTED AT SHORT NOTICE, ON BRASS, STEEL OR WOOD.

ENVELOPES STAMPED IN VARIOUS COLORS.

COPYING AND NOTARIAL PRESSES,

Of all sizes, and the most approved construction and finish.

Presses furnished to Shipping Houses to stamp Bills of Lading,
A NEW ARTICLE WHICH IS EQUAL TO PRINTING.

A Silver Medal awarded to L. N. & Co. at the late Fair.

Below will be found a list of some articles of BLANK BOOKS *and* STATIONERY *constantly on hand:—*

Blank Books—Ledgers, Journals, Day, Cash, Bill, Invoice, Stock, Dividend, Receipt, Note, Tuck-Memorandum, Pass, Metallic-Memorandum, all sizes, Church, Log, Time, Record, Daily Memorandum, Scrap, and Pocket Books, Hotel Registers, Pocket Ledgers, &c., &c.

Papers.—Bank Note and Bond Papers, Whatman's Drawing Papers, all sizes, from Cap to Antiquarian, Tracing Paper and Tracing Cloth, Ruled and Plain Cap Papers, French, English and American Letter Papers, Packet and Commercial Post.

Note Papers.—French, English, American and Chinese, more than 150 different kinds, from all the different Mills, Mourning Note and Letter Papers.

Inks.—Copying and Writing Fluids; Perryian Ink, a superior article; French Carminè; Red Inks; also, French and Chinese Red, Black and Blue Stamping Inks.—MOUTH GLUE.

Envelopes.—Buff, Gold, White, and Blue, of French, Engl. and Amer. manufacture; also, Cloth Lined, of all sizes.

Newspaper and Letter Files, Spring Measures, Letter and Paper Clips, Book-keeper's Reels, U.S. Letter Balances, Card Racks, Ivory Holders, Rulers, FABER'S Pencils, all grades, FABER'S Red and Blue Chalk, MONROE'S Pencils, Notarial and other Wafers, Stamps.

Cutlery.—Pen, Pocket, Erasing, and Desk Knives, Bankers' Shears and Scissors.

Cancelling Hammers, Bankers' Cases, Travelling Cases, and Desks, Writing Desks in Mahogany, Rosewood and Papier Mache. Cash, Twine, Date, Bank Notice, Envelope, Post Office, Bill Head and Steamer BOXES.

Lawyers' Blanks of every description. Seals, Seal Papers, Brief Paper, Indexes. Wax Matches, Red Tape, Custom House Blanks, Bills of Lading, Ship Receipts, Bills of Exchange, Notes, Drafts and Checks, Interest and Exchange Books.

Gillott's French, Phineas', Perry's, Hinks', Wells & Co.'s Steel Pens, and a great variety of Gold Pens and Pencil Cases.

Wafer Cups, Sand Boxes, Portfolios, Cancelling Files, File Boards, Oil Paper.

Damping Brushes, Patent Blotting, Desk Weights, Porcelain Slates, &c., &c.

NEW YORK
IRON PAVEMENT
AND
STREET RAILWAY CO.

Office Nos. 8 and 10 Wall st.,

ROOM 16.

TO THE

MUNICIPAL AUTHORITIES OF THE SEVERAL CITIES OF THE UNITED STATES,

AND TO

RAILROAD COMPANIES

AND OTHERS INTERESTED.

THE above-named Company, established in the City of New York, offer you in

ROBINSON'S IRON PAVEMENT,

1st. The cheapest pavement ever used, *because most enduring at least cost of repair.*

2d. The safest pavement *for either man or beast to travel on.*

3d. The most economical pavement, *because the tear and wear of both beasts and vehicles, of pleasure and burthen, are less upon it than upon any other in use.*

4th. The most beautiful pavement to look upon, *because the most cleanly and variegated, and free from dust.*

5th. The easiest and least tiresome pavement to ride upon, *because most even of surface.*

6th. The least noisy pavement to use or reside near.

7th. The best pavement ever used, *everything desirable considered.*

This Company is enabled to furnish cities and others with an Iron Pavement for every use, at a reduced price. They will contract to lay it down upon any graded street, of superior strength, beauty, and perfection to that recently laid down in Boston, or that in Nassau street, fronting the Post Office, in this city, for

$5 to $6.50 PER SUPERFICIAL YARD,

in substitution for any existing pavement. This price is over $4 per square yard *less* than the first laid down in Boston cost that city; AND $1 *LESS* PER YARD THAN THAT RECENTLY LAID DOWN IN BOSTON COST; *AND IS* $1 *PER SQUARE YARD LESS THAN THE RUSS PAVEMENT HAS COST,* that has so beautified, yet rendered most dangerous and expensive to *man,* and *beast,* and *vehicle,* a large extent of Broadway, and some other streets of New York city.

This pavement is also the best and cheapest for all railroad tracks, where horses are employed, and for all *highway railroad crossings,* now usually made of plank, which are subject to constant disorder and repair.

Lighter and less expensive patterns (averaging from $1 TO $3 *PER YARD* are furnished for walks in public parks and grounds, also for side walks, private lanes, yards, foot-ways, cellars, and approaches to stables—each being most permanent, cleanly, and ornamental.

In every case *ENTIRE SATISFACTION WILL BE GUARANTIED* to all purchasers with whom contracts shall be made for laying down this pavement.

FOR A SMALL ANNUAL PER CENTAGE ON THE COST OF LAYING DOWN, CONTRACTS WILL ALSO BE MADE FOR KEEPING THIS PAVEMENT IN REPAIR FIVE, TEN, OR TWENTY YEARS, OR EVEN FOR A LONGER PERIOD.

The municipal authorities of cities, and directors of railroad companies, and all enterprizing citizens who wish to blend utility with embellishment of their private grounds, residences, &c., are specially invited to investigate this subject. The surpassing usefulness of the Iron Pavement has been too well established in the public streets of Boston as well as in a section of Nassau street, in this city, to require experiment or argument to uphold it.

All additional information that may be desired will be promptly communicated, and orders promptly executed, by letter or in person, to the undersigned, *GENERAL MANAGERS OF THE COMPANY'S BUSINESS, AT THEIR OFFICE IN THIS CITY, NOS.* 8 *AND* 10 *WALL STREET.*

We are also allowed to refer for general information on the subject, to the gentlemen whose names are subjoined, as Honorary and Consulting Directors, not interested as shareholders in the Company's business.

SMITH, ELEVETH & ROBINSON,

General Managers for the Iron Pavement and Street Railway Company

HONORARY AND CONSULTING DIRECTORS.

HON. B. B. FRENCH, CHARLES MONROE, ESQ., *Washington, D. C.*
DAVID BURBANK, ESQ., *Baltimore, Md.*
JOHN J. SPEED, ESQ., *Detroit, Mich.*
HON. J. V. C. SMITH, *Mayor of Boston, Mass.*
L. L. SADLER, ESQ., *Treasurer of Union Telegraph Company, Boston, Mass.*
HON. H. F. FRENCH, *Associate Judge, Superior Court, Exeter, N. H.*
HON. JOHN M. WOOD, *(Member of Congress,) Portland, Me.*